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## ORIGINAL ARTICLES.

### ARTICULAR RHEUMATISM: ULCERATION ENDOCARDITIS; EMBOLISM.\*

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I purpose showing you this morning, the clinical picture of a serious and not very common malady and, as an introduction, I have brought before you a patient whom you have seen in the ward-class and whose disease is a comparatively common one.

This man is 48 years old; he is employed in the railroad yards, doing both indoor and outdoor work and, therefore, exposed to sudden changes of temperature and compelled to undergo the vicissitudes of the weather. He is now recovering from a moderately acute attack of articular rheumatism. It is acknowledged by almost, if not quite, every authority that such exposure as he has undergone, is the exciting cause of the outbreak of rheumatism. It is a disease to be found among the drivers, the street-car and railroad men, the mechanics who are at work for long hours out of doors; in short, it is to be expected among all who for any reason are exposed to the inclemency of the weather.

The patient represents the type of man physically, that is apt to be affected with this disease. He is in the prime of life, apparently well nourished, and he has had no other illness since the usual fevers of

childhood. Acute articular rheumatism seems to have a predilection for the hearty, well nourished, wholesome individual. It usually, however, makes its first appearance earlier in life. The left knee was the first joint affected but there is no longer any redness or evidence of acute inflammation in this articulation. It is characteristic of this malady that the inflammation leaps from one structure to another, the poison being in one joint on one day, passing to another the next, while the first affected joint regains its normal condition in a few days, sometimes in a few hours, and often invading the endocardium in the course of the disease. Here, the right knee, which was invaded after the left, is still quite tender and distended while the disease has involved also, the right shoulder and some of the smaller joints of both hands. A few days ago, the left knee was greatly inflamed and the patella could be knocked against the femur, showing an effusion in the synovial sac. Sometimes, when the synovial sac is not much distended, the patella is not forced up from the condyles and, in order to elicit the sound of impact against the femur, it is necessary to press over the upper part of the joint cavity so as to squeeze all the fluid into one part of the sac. In the left knee, this sign can no longer be obtained, but in the right knee I can get the sensa-

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tion of impact though, on account of the small distance that the patella can move, you can not hear the sound as you could in a more recent case.

The patient has had a very painful illness, the suffering of articular rheumatism being greater than for many more serious diseases. There is a time-honored comparison between rheumatism and gout which likens the pain of the former to that produced by putting a limb in a vise and screwing it up as far as possible, while the pain of gout is stimulated by giving the screw one more turn. I believe, however, that the comparison was made by a gouty subject and that acute rheumatism is as painful a disease as there is. The patient has not had a very high run of fever; for several days, the temperature was about 101°, dropping yesterday to 99°, in the morning and rising again in the evening to 100°. A single sample of the urine was of deep red color, acid reaction, and of a specific gravity of 1024. There was no albumin, sugar or sediment. The patient had copious sweats which were acid and sour in odor. These sweats are characteristic and they are often so acrid that sudamina are produced from their irritation.

In all cases of rheumatism, the heart should be frequently examined, for there is no other malady that so commonly causes endocarditis as does acute articular rheumatism. At no time during the malady has this man presented symptoms of cardiac invasion. It is not so much a surprise to me that rheumatism frequently induces cardiac inflammation as that it does not more often cause it. If you stop to estimate the friction at the cardiac orifice, you will be compelled to acknowledge that part of the heart is subjected to a tremendous amount of wear and tear. You have seen the physiological experiment with a column of mercury of water showing the pressure of the heart on the blood current. It is estimated that the left ventricle of the human heart exerts a pressure of about 55 pounds. Even at an estimate of 50 pounds, with the heart pumping away at the rate of 100 beats per minute, as it has done in this man's case for days, the amount of energy expended in the course of 24 hours is something enormous. Now, if in addition to the mechanical irritation of the rapidly moving blood current, the blood contains

chemical poisons, an inflammation is very apt to occur and it locates by preference at those parts of the endocardium where the passage is narrowest and where the friction is greatest, in other words: at the valvular orifices and particularly those of the left side of the heart where the pressure of blood is greater. If, in the process of inflammation, part of the endothelium is raised up above the common level, or if a fragment is detached leaving a raw surface, the conditions are favorable for the coagulation of the blood, and a deposit of fibrin is made, forming what is known as vegetation.

With most maladies, the very name of the disease implies the degree of danger of the case. Typhoid fever, pneumonia, etc. Endocarditis, however, is an exception to this rule. A person may have endocarditis and yet not be sick at all, in the ordinary sense of the word; or he may be extremely ill. The development of rheumatic endocarditis does not, as a rule, materially influence the course of the fever. There is commonly a slight rise of temperature and some irregularity of the heart which calls your attention to it, although your examinations should anticipate any cardiac involvement. In an acute rheumatic endocarditis the heart is evidently laboring under difficulties. Its rhythm is perturbed and you can hear the murmur which the increased friction of the blood current over the roughened valvular orifice causes, or which is due to a slight leakage backward of blood. Too much prominence should not be attached to this sign, for the loudness or softness of the murmur is not proportionate to the severity of the lesion. The symptoms from which the patient suffers are much more significant.

In regard to treatment, the joints were wrapped and the patient was kept very carefully protected with blankets from drafts. He was offered drink very freely, especially in the form of milk and alkaline waters. Meats were excluded from his diet and he had little solid food of any kind. I gave him morphine because I believe it lessens the work of the heart by lowering the vital requirements and by doing away with that part of the cardiac strain which depends directly on pain. Unless there is some reason to fear the establishment of the morphine habit, I believe it is well to introduce morphine in

the treatment of acute rheumatism at the start, in order to throw out as far as possible, the element of cardiac labor which is a determining factor in the production of endocarditis. Salicylates, usually administered in the form of the sodium salt, are indicated to aid in the elimination of the poison and in reducing the temperature. Sixty centigram to one gram doses are given every two or three hours, and pushed to the point of partial relief from the subjective symptoms of pain and fever. Then the doses are diminished or given at longer intervals. The bowel should be kept rather loose by salines, Rochelle salt being given in this particular case.

Like all other infectious diseases, rheumatism will run its course. You do not pretend to abort typhoid or scarlet fever, you simply guide the patient through the disease. By diminishing the patient's suffering, by lessening the amount of poison with which he has to contend, you make him more comfortable and tend to protect him from the danger of cardiac complications, but you probably do not materially shorten the duration of his illness.

#### ULCERATIVE ENDOCARDITIS: EMBOLISM.

This man is fifty-three years old, single, a German by birth, and a shoe-maker by occupation. The family history is negative except that one sister died of consumption. As to personal history, he had gonorrhoea thirty years ago, and there is a syphilitic history dating back twenty-five years, but the only statements are with regard to chancre—he had no after symptoms. This is an important point, for it throws a good deal of discredit on the supposed attack of syphilis. About the same time he had an attack of rheumatism affecting the arms, hands and legs. This rheumatic trouble lasted five years. Since then, he has been well until about four weeks ago.

Inquiring more particularly as to the rheumatism, I learn that he had palpitation of the heart before the rheumatism, and that there was no very acute fever. It is impossible to say at this late date whether the so-called rheumatism was really rheumatism or not. Four weeks ago he went to bed feeling as well as usual, but when he awoke in the morning he noticed a large yellow blister on the

outside of the left leg, which he pricked with a needle and which discharged a quantity of matter. Three or four days later, the sore had become covered with a dry, black crust, which you can still see. It is, evidently, a localized gangrene affecting an area about two inches by one and a half in diameters, and rudely triangular in shape. Six days ago, he had a swelling of the scrotum and penis. He worked until compelled to go to bed, when he was sent to the hospital. For several days previously, he had had fever at night, at least he thinks so from his sensations, but his temperature was not taken.

I do not know but that I make a mistake in bringing this case before you without having made a further study of his symptoms, but there is something so unusual and interesting about his disease that I prefer to study the case with you and, if necessary, revise my opinion of the nature of the trouble, rather than run any risk of your missing an opportunity that may not present itself again in a long time.

On examining the sore on the leg, we find at least a quarter of an inch of sloughing tissue. Except that it is not at the distal end of an extremity, this looks not unlike a senile slough, and it certainly is an instance of dry gangrene. Occurring without any history of traumatism, we must ascribe this phenomenon to some internal cause which has cut off the blood supply. The dry slough forms a practically aseptic dressing, and the sore interferes with the patient's comfort in no respect.

Let us turn our attention to the scrotum and see if there is any connection between the two lesions. You will frequently see oedema of the scrotum in cases of general dropsy, but here there is no swelling of other parts, and even the swelling of the scrotum, though undoubtedly containing some serum, is not at all what we should speak of as oedema in the passive sense. The penis and scrotum have a hard, tough consistency, the skin is reddened and hot, and the whole appearance is that of an acute inflammation. I apprehend that there is suppuration. The patient's countenance is pallid, the pulse has ranged for several days between 90 and 100, and the temperature has risen to 103° daily since he has been in the hospital. All this suggests an abscess.

The urine for twenty-four hours amounted to 800 c.c., was of a reddish tint, of acid reaction, of a specific gravity of 1018. There was no albumin, no sugar, no sediment. The excretion of urea amounted to 12 grams; about what we should expect for a rather small man on limited diet and with some depressing illness.

The cardiac apex is almost directly beneath the nipple, and its beat can be felt an inch outside the nipple line. The area of cardiac dullness is correspondingly increased. When the patient entered the hospital, the heart was intermittent and irregular. It has now become steadied by the care and medication which he has received, but there are still plainly audible three murmurs, a mitral regurgitant, an aortic direct, and an aortic regurgitant. Before speculating as to whether we can find any logical connection between the results of our examination and the obvious lesions which the patient presents, let us determine exactly what the condition of the scrotum is. An aspirating needle is passed into the right scrotum and apparently through into the testicle, and now pus is withdrawn. The pus is of an extremely offensive odor and is in considerable quantity. After the medical clinic, I will ask Dr. Park to open the abscess freely and evacuate this source of poison.

The explanation that I would offer of the occurrences of this case is as follows: An embolus has lodged in one of the smaller arteries of the leg, cutting off the nutrition from a limited area. This area is so superficial that the necrosis which developed speedily reached the surface and now appears as a gangrenous ulcer. The abscess of the testicle has developed in the same way but, the plugged artery being deeply seated, the process has gone on under cover. Following the embolism, a hæmorrhagic infarction has occurred; that is, from the sudden removal of blood pressure from behind, there has been a setting back of venous blood and stasis. For two or three days, the scrotum was as white as the skin of a dropsical patient and there was nothing to suggest pus.

In many instances, embolism occurs without the formation of pus; why should such a development occur here? Let us refer to the condition of the heart. Whether or not the history of rheumatism is significant, we have the evidence of an endocarditis which, from the enlargement

of the heart and the lack of acute illness till very recently, must have lasted for some time. The murmurs at the valvular orifices indicate an inflammation at those sites in particular. Now, if we suppose that one of the little vegetations has become broken off and carried into the aorta, it is simply an accident as to where it may be carried and where it may lodge, but wherever it lodges we should expect the nutrition of the part to be profoundly altered. This accounts for the localized gangrene of the leg; it accounts for the formation of a hæmorrhagic infarction in the testicle, but it does not account for the plainly infectious character of the lesion in the testicle unless we assume that the endocarditis has taken on a septic element and has become an ulcerative or malignant endocarditis. Presupposing this, we can readily comprehend how the embolism has led to a septic thrombosis which has extended, involving the veins in a septic phlebitis, and how, from the breaking down of the tissues, this terribly offensive abscess has formed.

My attention has been called to a difference between the radial arteries of the right and the left wrist. This has no significance, however, as the right fore-arm has been broken and the superficialis volæ is given off at a higher level than usual.

Judging from the record of this kind of cases in the past, I do not feel warranted in holding out a favorable prognosis. With the vegetations on his cardiac valves, he is apt to have an embolus thrown into the blood current at any time. Thus far he has been lucky in having the emboli lodge where they are accessible, but there is nothing to prevent them from reaching deeper and more vital parts. The patient may develop an hepatic abscess, or a similar infectious process may be set up in the brain. It is as much a matter of chance as is the throwing of dice. There is no reason to apprehend any serious trouble from the abscess of the testicle, and certainly we need not concern ourselves about the localized gangrene of the leg. But I know of no means of disinfecting the diseased area at the fountain head of life—the heart. If other abscesses develop, they must be opened.

One other point must be considered, the possibility of a syphilitic infection and consequent heart lesion. If the endocarditis is of this nature, the prognosis is



more favorable. With this hope, I shall order small doses of potassium iodid and some form of mercury, but I shall not stake very much on their therapeutic value. We must support, nourish and stimulate the patient, and at least make him temporarily comfortable. Sooner or later, the detachment of an infectious particle from the cardiac orifice will determine his rapid dissolution.

NOTE.—A week after the clinic the patient was shown in a state of temporary

improvement. He walked into the arena, the abscess of the testicle had been freely opened and had almost ceased to discharge. No perceptible change had occurred in the sphacelus on the leg. The patient was perfectly comfortable. The possibility of other forms of embolism or arterial thrombosis was considered. Diabetes was excluded, and although the patient had eaten rye bread, there was no evidence of ergotism. He was discharged well, with great improvement of cardiac sounds.

### CLINICAL NOTES ON A RECENT SERIES OF SURGICAL CASES.\*

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The successful practice of surgery is not altogether unlike the cultivation of a garden; the yield will in all probability depend not so much on the richness and fertility of the soil or a favorite season, as on the knowledge, the experience, and the industry of its cultivators.

Though much, in isolated instances, may depend on chance and fortuitous circumstances, our chief reliance, in the end, must rest on the firm groundwork of matured knowledge and extended effort. The cases here submitted, have all come under my care and observation since the first of this year, and are selected because they belong to a class which commonly come before us, and of which it may be said that now, after more than twelve years' experience, in dealing with a very considerable number of them the writer is enabled to report successes and results altogether in advance of what would have been possible at an earlier period. For time and observation have convinced me that even moderate success in the treatment of complicated surgical cases, is utterly impossible without abundant opportunities for practice, together with a familiarity with the latest and the best work of contemporaries in our own and foreign countries.

The cases selected for presentation here are of traumatic and pathological order, regional and general.

#### CRANIAL LESIONS—FRACTURES OF THE SKULL—TRAUMA.

Since the first of March, 1895, there have come under my care ten cases of fractures of the skull—four basilar, occupying the most vital, the cerebral and cerebellar regions; and six cases of fracture of the vault, the non-vital. The patients ranged in age from nine to fifty-six years; there were nine males and one female; three were fatal, and seven recovered.

It may be said that this class of fracture is yearly becoming more common in New York. The immediate dangers attendant on cranial fracture, arise in consequence of shock, hemorrhage and inflammation. The features of special interest in connection with the cases here enumerated, are, first, those with reference to basilar fracture involving one or more of the cranial fossæ. We had quite unequivocal symptoms of this lesion; as a free discharge of sero-sanguinolent fluid from one or both ears, with a free extravasate into the subjacent tissues.

Traumatic depression of the bone substance of the skull is not attended with such definite symptoms of sensory or motor disturbances as we would be led to expect since the doctrine of cerebral locali-

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zation has been promulgated. The most constant evidence of local injury to the cortical substance of the brain with such aphasic symptoms as pointed to local compression, was where there were distinct marks of inward displacement of fractured bone over the fissure of Rolando or the middle parietal convolutions.

My general line of practice, in cases of fracture through any area of the cranial vault attended with a moderate indentation of bone but no cerebral symptoms, is to not interfere with a view of elevation or displacement. This line is especially adhered to when the seat of displacement is over any of the large sinuses.

*Cocaine as an Analgesic.*—In the operative technique for elevating shattered and displaced fragments of late we have substituted pulmonary anesthetics altogether, by employing local cocaine analgesia. This change has been most advantageous to the operator, in lessening hæmorrhage by the well-known hæmostatic action of the medicament, and obviating the necessity of so many trained assistants as would be otherwise rendered necessary.

The difference of the effects consequent on the utilization of this line of treatment is vastly in our patient's favor, as by it there is no such engorgement of the cerebral vessels as we always observe under ether; as no cerebral excitation at a period when it is obvious that violent commotion of the cerebral centres must be harmful to our patient; and persistent vomiting after operation is entirely obviated.

*Debridement instead of the trephine.*—Except in rare instances the trephine has been entirely displaced with me by the osteotome for elevating and removing depressed bone fragments in skull injuries. By its cautious employment there is much less danger of damage to the dura-mater, the brain substances, or the cranial sinuses; and less bone may be sacrificed. For simplicity, safety and readiness of employment it is a great improvement on the trephine in this class of cases.

*Asepsis and refrigerants as prophylactics.*—Experience has long since taught me that, except for the scalp tissues, all chemical solutions should be rigorously eschewed in all skull fractures involving an operation. My early experience soon taught me that any description of antiseptics when applied to the rude elements of bone anywhere, and to the dura-mater and

cerebral tissue in particular, are full of danger to the vitality of the protoplasmic elements and may be promptly followed by grave inflammatory changes. Now, in my service, nothing is ever employed for flushing or cleansing in cranioccephalic operations except sterilized water.

The ice-cap or iced-cloths are immediately applied to the whole exposed wall of the skull, and are continued until reaction is fully established.

It is my conviction that moist cold over a traumatized surface, is a potent prophylactic against consecutive inflammation, cellulitis or meningitis in all skull injuries, and should be always employed until about the third day, when it may be discontinued.

*Mercury in meningitis.*—Mercury judiciously administered is an agent of unrivalled excellence, in inflammatory conditions of the fibro-serous membranes. On the meninges, it acts with especial energy; therefore, in cases of cranial trauma, a purgative dose of calomel is given early, and repeated later, should symptoms of meningeal trouble threaten; the dose of the drug being so proportioned as to promptly secure its full therapeutic effect without its possible lethal action.

#### FRACTURES OF THE LIMBS.

Fractures of the extremities, we are almost never without in the Harlem Hospital service. In my own private hospital notes on this interesting and current type of trauma, there are more than two thousand cases enumerated, though more than four thousand cases have come under my notice in the past twelve years. Since March first, this year, we have had entered of fractures of the extremities, ninety-one cases—seventy-six simple; and fifteen compound.

In the deluge of surgical literature spread before the medical profession since the doctrine of antiseptics was established, it is singular to note that, except in the treatment of the compound variety, little has been presented on fractures of the extremities. In fact this study has been allowed to lapse. There is, however, no class of surgical injuries of greater interest than those fractures which involve the structures on which we depend for locomotion and prehension. Their correct treatment will reward us with a fair degree of restoration of contour and function; while when managed on wrong prin-

ciples, diminished power and motion are quite certain to follow.

The number here considered includes fractures of the clavicle, arm, forearm, leg, femur, and bones of the hand and foot.

*Muscular relaxation rather than forced extension.*—The guiding principles which we observe in small fractures, are, first to secure muscular relaxation and osseous reposition, without employing violence. Forced extension or counter-extension in certain fractures, are not wanting in theoretic support; but in fracture, a considerable experience, with careful observations, has convinced me that continued tension on a limb rather provokes muscular rigidity than effects relaxation. Besides, the co-existing pressure on the main blood-trunks and the tendency to sloughs in enforced confinements to bed, are among the drawbacks of steadily maintained tension. The rules of physics will not apply to fractured bones, otherwise such a thing as deformity after treatment would be impossible, except in the event of great loss of bone.

Muscular relaxation with support to the mangled tissue favors the falling of the fragments into their natural position. There they will remain, and restoration of contour will be the rule in many bones; but with the clavicle and humerus the incessant respiratory movement, and in the femur the demands of nature and the necessity of frequently shifting the body are disturbing influences which nothing can entirely overcome, and hence some sort of support is necessary.

*Support of the fragments rather than fixation with gypsum.*—When the plaster of Paris mould was first introduced it was at once seized on as the ideal material for fracture adjustment. It does serve most purposes when employed in appropriate cases; but everything is buried under it, and its removal is always attended with jarring of the limb. For a long time it has been my custom to employ it, never as a primary dressing, but after the provisional callus is formed, it answers a useful purpose.

In the treatment of compound fractures our first endeavor is to securely replace the fragments and close the wound—make the fracture a simple one.

In compound comminuted fractures, with immediate, partial or complete as-

phyxia or destruction of the tissues, our aim is to first suppress all hæmorrhage by closing separately the large bleeding vessels, thoroughly cleansing and dressing the wound, and placing the parts under covering in a comfortable position.

#### FRACTURE OF THE SKULL (10)

Vault (6) 3 compound. 3 simple.

Base (4) All simple.

Average age 32 years.

Survived { Vault 1 } Succumbed 5  
              { Base 2 }               2

Three were railroad injuries, 9 were males, and 1 female.

#### FRACTURE OF THE NASAL BONES (1)

Compound. Female. 36 years.

#### CLAVICLE (8)

Outer Third (7) 5 male, 2 female. Average age 19.  
Middle Third (1) All simple.

#### RIBS (9)

5th rib (1) 6th rib (1) 8th rib (1) } All simple  
9th rib (2) 7th rib (2) 10th rib (2) }

#### HUMERUS (13)

Surgical Neck (1) Simple.

Middle Third (6) 1 Compound.

Lower Third (2) 1 Compound.

Extern. Condyle (1) Simple.

Internal Condyle (3) Simple.

#### RADIUS (18)

Middle Third (2) 1 Compound.

Colles' Fracture (16) All simple. 9 female. 7 male.

#### ULNA (2)

Middle Third (2) Simple.

#### METACARPAL BONES (1)

Metacarpal bone of index finger.

#### PHALANGES OF HAND (6)

2d phalanx. Index and middle finger.

1st and second phalanges. Thumb.

1st and 2nd phalanges { Index and middle fingers.  
                                  } Compound fractures.

All phalanges of right hand. Compound.

2nd phalanx. Ring finger. Simple. No amputation.

3rd phalanx. Little finger. Traumatic amputation.

#### FEMUR (6)

Intracapsular (3) } Simple.

Middle Third (2) }

Supracondylar (1) Compound. Railroad.

#### TIBIA (10)

Middle Third (7) 5 Compound.

Lower Third (3) 1 Traumatic amputation.

#### FIBULA (15)

Middle Third (7) 2 Compound. Simple.

Pale's fracture (8) All simple.

#### PATELLA (1) TARSAL BONES (1)

1 railroad case in which all the bones of the foot were ground into pulp.

#### METATARSAL BONES (3)

3rd metatarsal.

1st and 2nd metatarsal.

All metatarsal bones. Compound. (Railroad).

#### PHALANGES (OF FOOT)

1st and 2nd phalanges of 1st and 2nd toes. } Comp.

1st and 2nd phalanges of 4th and 5th toes. }

Little toe. Traumatic amputation.

## PRIMARY AMPUTATIONS.

Primary amputation after disorganization of a limb, in civil life, is always a questionable procedure; though, when a limb has been practically traumatically amputated, we may, at once, with the scissors divide the frayed integument or tendons.

There have been in my service lately, eight amputations for traumatism and pathological conditions. After reaction, when the line of demarkation is formed in traumatic cases, we run little risk of a sloughing flap. Such a case is now under my care; a young man had his foot crushed off at the ankle joint, by a railroad accident. Four days later, after the line dividing the healthy from the dead tissue appeared, sufficient of the parts under the healthy skin were cut away to allow the healthy integument to fall in over the ends of the bones and cover them without strain.

## CERVICAL TUMORS.

Ten cases of serious submaxillary cervical tumors have come under my care within the past three months.

One, a case of sarcoma of large size in an old man of sixty-four, was refused operation. It was not, apparently, deeply lodged; but as there were rapidly developing new growths in the hard-palate, pharynx and spheno-palatine fossa, it was decided that an operation was not warranted.

One tumor of large size was a lipoma, this sprang from the loose subscapular tissues and advanced forward and downward to dip under the posterior of the sterno-mastoid muscle.

*Importance of accurate diagnosis.*—One man on whom we operated, had a voluminous growth which occupied the whole quadrangle of the neck; on right side advancing up under the lower jaw, and downward behind the left clavicle, to and through the apex of the pleural cavity. He had been operated on four months previously; the growth reappearing consecutively, rapidly enlarging, and now, so far forward under the deep cervical fascia as to encroach on the tracheal rings and threaten suffocation.

At the institution in which he was first treated, radical operation was refused as the growth was declared malignant. The mass was hard, unyielding and painful,

with deep attachments. After careful and thorough examination of his case, it was my conclusion that the mass was wholly tubercular, and that, while its removal would demand a very formidable operation, it was clearly within the range of operative surgery to turn it out safely. It was presumed that in the first operation the superficial absorbents were removed, and that the regrowth consisted in a hyperplasia with central degeneration of the deep chain, which lies in close contact with structures vital to life.

*Hæmorrhage in operations on voluminous cervical tumors for their removal.*—The most formidable danger in the complete removal of cervical neoplasms, comes from hæmorrhage; and there is nothing that so severely tries one's courage and skill as the occurrence of it in this class of cases. Celerity and coolness must be combined when an arterial spring is opened, or the operative field is suddenly flooded by the vascular torrent. In infiltrating, malignant growths of the neck, removal always entails great danger because of a steady oozing which cannot always be wholly stanching before dangerous anæmia sets in.

In the above mentioned case, the operation of enucleation was commenced by dividing all the overlying structures in the centre, a cervical incision having extended across the entire mass. Great care was taken to clamp and ligate all the bleeding vessels as we proceeded. The peripheral decortication was comparatively simple; but, as we penetrated into deep parts, difficulties began to appear.

Early in the operation the internal jugular vein was divided and both ends ligated. Next, as we proceeded more deeply to turn the growth out, consecutively, the cervicalis ascendens, the ascending thyroid, the transversalis coli, and the occipital arteries were clamped, ligated and divided. Of the nerves, the descendens noni, phrenic, and the anterior cervical branches of the cervical plexus were divided and their ends teased away from the elements of the tumor. The common carotid was adherent by its sheath from the clavicle up to the point of bifurcation. The sheath with the pulsating vessel was cautiously detached from the under surface of the growth, and now, while endeavoring to enucleate the deep supra clavicular lymphatics and press forward the subclavian artery, the pleural



cavity was opened just below where the subclavian arches upwards. Now the whole mass was lifted out, leaving a large chasm, exposing the tracheal plexus, the large blood-trunks and the trachea. The opened pleura was then closed, the bleeding subsided, and the edges of the integument were brought together.

In this case, although there was an extensive mutilation of tissue, but little blood had been lost. Our patient rallied well from the operation. His recovery was prompt; the line of incision closing by primary union, except at the part left for drainage. But little blood had been lost, and no shock followed.

The mass proved to consist of an aggregation of tubercular glands; some simply hypertrophied, others were suppurating and caseous; all were bound together by dense inelastic matting of fibro-connective tissue. Although the thyroid, submaxillary and sublingual glands were freely exposed, no trace of infiltration was visible.

Of the other seven cases two were malignant; two were acute suppurative inflammation of the lymphatics; of the remaining three two evidently were tubercular but not suppurating. These are being treated by palliative measures.

#### HERNIA—VARIOUS TYPES.

Sixteen cases of various types of hernia have come under my notice since the beginning of the present term—these included strangulated, incarcerated, reducible and irreducible cases. But one case required operation for strangulation. The operation was performed late at night, by a member of the House Staff.

*Deaths in strangulation attributable to delay and to avoidable errors in operating.*

This case, which terminated fatally, was most fruitful in suggestion and in pointing the way to avoid mistakes in treatment.

The case was neglected in the beginning, by the practitioner who was first called by persisting in violent taxis, and allowing his patient to suffer until collapse set in before sending for or calling in active surgical relief.

The next oversight was committed in the details of operation. A knuckle of intestine was partly twisted on itself; a patch of gangrene about the size of a quarter, extending through the glandular and muscular tunics, occupied the walls of

the bowels—though there was no perforation, as the outer fibro-cellular coat was intact. Vomiting ceased after the constriction was relieved and the intestine returned, but the man did not react and sank thirty hours after operation. On autopsy, it was found that a fatal error had been committed in the management of the extruded coil. The adhesion which held the coiled bent surfaces of the intestine together, had not been liberated and, in consequence, its lumen remaining completely obstructed, internal strangulation followed, thus removing every possible hope of recovery. The gangrenous area, in my opinion, was not enough to seriously call for resection, the use of the Murphy anastomotic button or other adjustment, inasmuch as it is extended only about half way over the entire cylinder and would undoubtedly have taken care of itself by making an adhesion to some of the neighboring viscera, thereby preventing any possible leakage.

*Critical inspection of the protruding mass and thorough liberation of all constrictions, both within the sac, the canal and at the internal ring, indispensable in all cases of operation for strangulation.*—In all cases of operation for strangulation, after we have freely divided the points of stenotic impediment, it is of the greatest importance that we critically inspect the conditions of the ectopic viscera and completely liberate the imprisoned structures. A failure to do this renders an otherwise life-saving operation, inert in its effects. A practical demonstration of this came under my notice recently. A man was seized with symptoms of strangulation after stool. He had a chronic incarcerated inguinal epiplocele. An incision was made down in the upper surface of the mass, the omentum exposed and the inner ring divided. But there was no relief of the symptoms after operation and the patient sank unrelieved the following day. On autopsy a loop of intestine was found caught, crushed under and concealed by the omentum. This had entirely escaped detection and continued occluded after the epiplocele was exposed.

*Treatment of reducible hernia.*—Nine cases of reducible inguinal hernia have been examined by me, within the past ten weeks. My practice in this class of cases, is not to advise operation unless the hernia is progressively enlarging, is painful,

threatens strangulation, is not trussable, or the patient is desirous of relief from the deformity. Besides the class enumerated, it is my custom to recommend a radical cure in a female, or in those individuals whose deformity constitutes an impediment to entrance into the civil or military service. But one of these nine which came to me was regarded as appropriate for radical cure. He was a young man who had hernia since childhood. It was of the indirect inguinal type. This was operated on with gratifying results, the patient leaving the hospital in two weeks.

*O'Hara's or the Australian operation the best for open treatment.*—Of the almost infinite number of operations recommended during the past ten years for cure of hernia, there is none which in so large a measure fulfills the requirements with so little mutilation, as the operation devised by Mr. Henry M. O'Hara of Melbourne, Australia. Briefly described, it consists in an isolation of the neck of the sac, its division and retraction up through the canal and internal ring to the fascia transversalis, where it is anchored by absorbable suture material. It entails no weakening of the abdominal walls by divisions of the aponeurosis, no divisions of large vessels, there is no drainage required, and no disfiguring scars left. In fifteen cases so treated by me since April, 1894, there have been no relapses.

#### ABDOMINAL SURGERY.

Without doubt in the whole field of medical science and since its earliest dawn, there has never been anything to equal the stupendous progress made in *abdominal and pelvic* surgery during the past twenty years, and in this, let medical history record it, America has occupied the position of the pioneer. In 1881 the celebrated Simms gave to the professional world his conceptions on the possibilities of surgery in this direction, though unhappily he did not survive to realize the fruition of his hopes. Bigelow had perfected lithol-  
 osity. At the International Medical Congress in Washington, in 1886, Nicholas Senn presented his thesis on the surgery of the intestine, and startled the rank and file of the profession by the immensity of his original and marvellous researches and experimentation on abdominal surgery in the lower animal, and his lucid demonstra-

tion of their application on man. Abbe had been a generous contributor in this line, and posterity is indebted to Sands for opening the way to that operation on the appendix, since perfected by McBurney, and through which thousands of lives have been saved. It has rendered necessary the re-writing of the pathology of the peritoneum. As would seem the climax of all, the young Chicago surgeon, Murphy, has invented an anastomotic button, the very acme of human ingenuity, which has rendered the surgery of the intestine more expeditious and safer than ever.

*Timeliness and skill in operations on the appendix.*—During one week, from April 5 to 13, in this year, seven cases of severe abdominal disease came under my notice. Six were of appendicitis; four were of the perforating type. Two came into the hospital in the advanced stages, too late for relief by operation, and both died within twenty-four hours after entrance. Two were operated on; with perforation of the appendix in both cases. In one there was a double perforation with general peritonitis. Both recovered. Two mild cases of the recurrent type were treated by palliative measures and recovered. In one abdominal case which was brought into the hospital, great prostration was present. My colleague, Dr. A. Palmer Dudley was of the opinion that there was mechanical obstruction, though it was my impression that it was the appendix which was at fault, and that obstruction was due to intestinal paresis. The abdomen was so extremely tympanic that it was impossible to definitely locate the structures. On section the appendix was found healthy and, as Dr. Dudley had predicted, the small intestine was found obstructed by a band at about its center. The patient rapidly sank under ether, before the incision could be closed.

It was formerly my conviction that, as the danger in the operation itself seemed to me very great and the larger part of those cases of appendicitis do well under medical treatment alone, surgical interference was not proper in any except rare instances. Later experience has convinced me that this position is not tenable and that in all cases of appendicitis which show a tendency to persistently recur, or are of the acute fulminant type, the correct course is prompt operation. The

results in operation depend almost entirely on operating just at the right time and performing the operation with skill and celerity. The time to operate is, and always probable will be, very difficult to determine. Its performance, for a successful issue in a large number, requires special skill and experience. A small incision, the quick ferreting out of the appendix under the trained finger, the neat and aseptic amputation of it, without unnecessary loss of time or trauma of the peritoneum count vastly in the patient's favor.

On the 28th of April Dr. J. A. Hoffheimer called me in consultation to see a case of appendicitis under his charge with the view of determining the propriety of an operation.

The patient was a boy of twelve, who had had previous attacks. It was the sixth day of his illness, when I saw the case. At this time, his pulse was 143 per minute; the temperature 103°; there was some vomiting, and severe pain when morphine was not pressed. The abdomen was extremely tympanitic, and over the appendix sensation to pain on pressure was extremely acute, though all the abdominal areas were hyperæsthetic.

After a careful examination of the case, giving due weight to the various serious symptoms present, the lad's grave condition, and the uncertainty of results after radical measures, when the advanced stage of the disease is reached, my opinion was that nothing definitely could be promised by operation, and it was possible that recovery might ensue by energetical constitutional measures. Three days later the boy died just at a time when it seemed that peritoneal inflammation had subsided. Now my regret is that I did not operate. Indeed, there can be scarcely a question but in all these cases, no matter what the stages of inflammation may be, when we are once assured that the appendix is the actual seat of serious disease, an immediate operation should be invariably insisted on.

#### JOINT DISEASES.

*The influence of systemic cachexia on the arthropathies which succeed injuries.*—Several cases illustrating the various phases of joint injuries and diseases have lately come into the hospital for treatment. The dominating pathological changes at-

tending these were rheumatism and tuberculosis. There can be scarcely a doubt but various constitutional disturbances impress their stamp on many traumatism and enhance the vulnerability of various organs and structures. This is especially true of the tissues which enter into the joints.

The articular heads of the bones are the center of great activity during the processes of growth and development. As a move in the direction of arriving at an accurate knowledge of the precise pathological conditions which obtain in certain arthritic elements, it would be well if the terms "hip joint disease" or "knee-joint disease" were abolished.

A young man, late in the autumn of 1894, sustained a sprain of the knee, in a foot ball game. He was treated at home and elsewhere for "knee-joint disease." Failing to secure relief from the various fixation appliances which had been employed, he entered Harlem Hospital on the 12th of March. On a critical examination of the joint there was no evidence of any morbid changes in the capsules or cartilages; but the head of his tibia was enlarged and exquisitely sensitive. The cancellous center of this bone was opened freely; the trephine entering just under the insertion of the tendon of the sartorius. A pus cavity was tapped and a considerable residue of necrosed bone curetted out. All pain immediately ceased, the spasmodic contraction of the hamstrings passed off. He returned within four weeks to his trade of a painter when his "knee-joint disease" (?) was cured.

A young man entered later, who a few days before had violently wrenched his knee. He was sent in to have the supposed hæmorrhagic distension of the capsule relieved by evacuation through an arthotomy.

It was found to consist entirely of a hæmatoma into the loose cellular tissue outside the aponeurotic investment of the knee joint, and wholly disappeared by a few days' rest with moderate bandage pressure.

A young woman of good physique was sent into the hospital for the treatment of "acute suppurative synovitis of the right knee joint." On inspection it was found that the patella was displaced inward and deeply lodged under the projecting surface coming down from above. The case

was clearly one of acute phlegmon under the fascia-lata, its fluid contents being arrested from advancing further downward by the insertion of its fibrous hood into the lateral surfaces of the quadriceps tendon. The articulation had wholly escaped. An incision, evacuation and drainage gave immediate relief, and final recovery was rapid.

*Rheumatic pain sometimes antecedent to trauma of the joints.*—Rheumatic affections of the joints of the lower extremities are sometimes preceded by a weakening of the muscles. This precedes the intense pain and swelling. The person about to be seized is conscious of a sense of lameness or unsteadiness in the articulation. He is now liable to a fall or a wrench, when, all of a sudden, all the typical symptoms of acute inflammation set in, and he has a pan-arthritis. To mistake this mixed condition for a joint trauma alone, and concentrate all one's attention on the local trouble, may lead to serious results. Protracted fixation of a limb always interferes with its full nutrition and arrests its growth in growing children.

Several cases have been seen by me during the spring months, supposed to be organic disease of the joints which promptly recovered when all retaining supports were removed, the joints allowed full liberty and rheumatic remedies pressed.

*Resection of diseased joints or conservative methods.*—Formal resection of a joint is never done in my service unless there is evidence that disease has completely disorganized it. In those cases it remains a question if an amputation is not preferable. Resection of a joint, let it be remembered, means its entire destruction. In the child, under ordinary surroundings, after a time tubercular disease of the heads of bone often tends to spontaneous arrest. My practice in aggravated cases of this type is to open and curette the joint, preserving the ligament and cartilages. In adult tuberculosis of bone, reaction will not arrest the progress of the malady which is now, usually generalized and progressive.

#### MAMMARY TUMORS.

Among the cases seen and treated by me within the past quarter, were five cases of tumor of the mammary gland. Three of them were malignant, of the epithelial variety, one recurrent. Of the other two,

one was a dermoid cyst and the other tubercular.

*The therapy of malignant mammary neoplasms*—The cyst was readily decorticated, the incision promptly healing. Seven years before she had the opposite breast removed for the same condition, in which up to the present time there had been no recurrence. An incision, curettage and drainage cleared away the strumous infiltrate.

The principles which should govern us in the management of cancer of the breast are still *sub judice*; indefinite and unsettled, although the reports coming in from the results of the extirpation of all the axillary absorbents with the complete removal of the mammary glands, point to a great improvement of this method above all others.

One of these cases was treated by me on this plan for the reason that there was already an immense secondary growth in the axilla. In her case, there was a large, hard infiltrating, secondary growth in the axillary hollow, which required a very delicate dissection to remove it without damage to the main arterial trunk, to which the tumor maintained a firm grip.

The long thoracic artery with the thoracic alaris were divided and the axillary vein opened. But, all hemorrhage was readily subdued. The patient ultimately made a good recovery, though with marked limitation of shoulder action, in consequence of the cicatricial contraction in the apex of the axillary space. The direction of dissemination is always centripetal along the course of the absorbent vessels. The adenomatous structures of the lymphatics, serve as out posts to prevent systemic infection, and no doubt are invaded at an early date. The complete operation is one which entails an extensive mutilation of tissue and is, perhaps, more dangerous to life than simple mammary excision; but the promise which it gives us against relapse more than outweighs these objections.

One patient with a small, hard scirrhous refused operation and later I was informed went into the hands of a charlatan.

A case of recurrent cancer had been first operated on by me in November, 1884, and again six months later. She had refused any further cutting operation.

In her case the powerful chemical cauteries have been employed by me, with the



hope of being able to clear away the fungating crop of pulpy granulations which occupied the site of the scar tissue. It succeeded fairly well, at first, but its repetition, in an attempt to destroy the substrata of neoplastic elements, was attended by such agonizing pain and positive shock that life was endangered and my patient declared she would rather die than undergo the ordeal again.

When arsenical paste was employed, although its activity in charring the tissues was decided, yet there were invariably

symptoms of constitutional poisoning; numbness of the extremities, from toxic neuritis, nephritic irritation, sore throat, and very severe gastric symptoms, followed in every instance.

My own unsatisfactory experience with caustics has led me to employ them in malignant growths with caution, and never except on those which occupy the periphery and are of a very limited area. In labial epithelioma or on senile growth involving the nose or eyelids, the caustic substance will serve a most useful purpose.

### SPINAL IRRITATION.

W. H. WALLING, M.D., PHILADELPHIA, PA.

Spinal irritation is generally characterized by tender spots along the spine, more or less pain in the back and down the limbs, with weakness in the limbs, this latter being in some cases very pronounced. Pain is frequently felt in the stomach, and the patient may seek advice for some supposed malady in that organ, being unaware of its spinal origin.

The painful or tender points along the spine in many cases are very easily found upon pressure, but in others the trouble is obscure, and the difficulty is only located upon electrical examination. The technique of such procedure is as follows: The patient removes the outer clothing except from the lower limbs; is covered with a sheet, if a female, and then seated upon a wet sponge or pad, connected with the positive pole of a faradic battery. The operator, with the negative sponge, using a current of just sufficient intensity to be plainly felt, commences at the nape of the neck and passes slowly down upon each side of the spine, carefully noting the sensations produced. Over the tender points, pain will be felt. This will frequently be found to extend across the whole lumbar region, sometimes involving the sciatic nerves. It must in some cases extend around the sides from the lower cervical and the upper dorsal portion, more often upon the left. Again it will appear only at or near the median line. This accounts for the pain in the region of the stomach, above referred to.

In males, I find the difficulty mostly confined to the lumbar region, and such cases are sexually impotent, as a rule.

The cause of the disease is sometimes obscure. Many cases that have come under my observation have resulted from an attack of the grippe. Others were due to over-exertion, or prolonged standing, as in shop girls. Others to the jar of the street cars, combined with long standing, as in conductors and motormen, or gripmen. Some are traceable to traumatism; still others possibly to some specific taint.

In some patients the tendon reflex is abolished, in others I have found it exaggerated. In the former class, strychnia agreed with the patients; in the latter, it aggravated the symptoms in some cases.

The treatment consists in removing the cause if possible; rest, counter-irritation, electricity, and proper medication. As a counter-irritant tincture of iodine and glycerine, equal parts, makes a good application. Paint on thoroughly for fully ten minutes. If tincture of iodine be used ullstrength, as may be necessary in some cases, it too should be applied freely, and then allow the skin to heal before applying again.

Proper electrical treatment is very valuable, and in order to give such treatment, a good battery and intelligent application must be combined. I use a Kidder faradic, and for the most soothing effect, the whole coil, *i. e.*, the current selector rests upon the "A" and "E" posts, with the tin

tube covering the coil, completely removed, the current being governed by a controller. The technique is as follows: Seat the patient as for diagnosis, with the negative pad on the stool, then with the anode, or positive pad, at the nape of the neck, turn on just sufficient current to be plainly felt, and pass gently down the spine, resting for several minutes over each tender point. A large pad is sometimes preferable for use on the spine, especially if there be much tenderness, as more current can be thus used. Pass up and down the spine and around the sides, for twenty minutes to half an hour, repeating daily or every other day, as may be needed. We get better effect by using the uncovered coil, as above directed, than if only part of it is in the circuit.

In many of these cases the brain is involved and must receive attention. At the close of the sitting, change to the galvanic battery. The patient may complain of being dizzy at times. If this be from plethora, place the cathode on the left temple and the anode back of the right ear. Turn on one or two m.a. of current, hold the pads as adjusted for one or two minutes, then carefully move cathode to the right temple and the anode to back of the left ear, continue as before, and finally bring the cathode to back of the contact with the skin. Now increase the right ear without at any time breaking current to three or more m.a. if the patient can bear it, and use this for two or three minutes. If at any time during the sitting, the patient should complain of being dizzy, reduce the current to a pleasant tolerance. Always turn the current on and off very gently.

When there is an anemic condition of the brain, proceed in the same manner but with the poles reversed.

**Medication.**—This will include, of course, diet and hygiene, as well as drugs.

The first two must be regulated according to the case. As to medicine, I have had the best results from the use of the tri-bromide of gold, and the oxy-bromide of arsenic.

If the trouble is of specific origin I use the combination of the tri-bromide of gold, with the oxy-bromides of arsenic and mercury. This latter preparation is a specific for all conditions arising from syphilis.

Gold and arsenic are powerful alteratives and reconstructives. They have a most wonderful effect in all sclerotic conditions, promote healthy metabolism, and prevent decay. I now have on hand two cases of chronic spinal irritation, which are rapidly yielding to the gold and arsenic treatment.

This combination also acts as an aphrodisiac, giving in many cases most satisfactory results. For further information regarding the tri and oxy-bromids, the reader is referred to an article by the writer in *THE MEDICAL AND SURGICAL REPORTER*, January 26, 1895. I shall cheerfully answer inquiries from any reader of the *REPORTER* regarding these remedies.

#### Restoring Persons Apparently Dead from Chloroform.

Leedham Green (*Birmingham Medical Review*) calls attention to the König Maas system of rapid compression of the precordium as used in Göttingen. The case on which he tried it was a child four months old. The operation of circumcision had nearly been completed when the child became deadly pale, the pupils dilated, and the respiration and the heart's action ceased.

The child was apparently dead. The surface became pale and cold, the eyes shrunken, pupils widely dilated, and there was a collection of froth at the mouth. Rapid compression (about 120 per minute) of the precordium was followed by a faint gasp and ultimate recovery. Seven minutes had elapsed during which neither heart-beat nor respiratory effort could be detected. Sylvester's method which was first used, was totally inadequate.

#### Laparotomy for Perforation in Typhoid Fever.

Parkin (*British Medical Journal*) gives the history of a case in which the perforation was promptly diagnosed and operated on only two hours after it had occurred. The patient died three days after the operation. The author states that this added one more to the list of twenty such cases which had been so treated with only one recovery. There is no doubt that perforation in the course of enteric fever is almost invariably fatal, and any recovery from such a complication can only be regarded in the light of an accident unless surgical treatment be adopted.

## THE MANAGEMENT OF THE NEW-BORN.\*

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My subject deals with the infant from its first arrival into this world of care, whether it greets you in that boisterous way which is familiar to every practitioner, accompanied by the subdued words of the mother, "Thank the Lord!" or whether it comes silently into existence. After having satisfied myself as to the viability of the child, I tie the cord in two places; first about three-fourths of an inch from the child, and, leaving a few inches interspace, I again ligate. Having severed the cord between the two ligatures, the child is laid in a warmed flannel, wrapped up and put aside.

If it be still-born, or a weak, delicate, poorly-nourished child, I, by stripping between my fingers, force the blood from the cord into the child and tie; if cyanotic, I allow the cord to bleed before tying. I have frequently resuscitated in this way. If these methods fail, I resort to shock by plunging first in hot, then cold water. If this does not resuscitate, I allow the child to remain for ten minutes in the hot bath and use Sylvester's method, allowing the neck to rest on the rim of the bowl, using my foot as a head rest and to prevent the head from falling back too far. This extends the neck and the head is thrown back. Then with the Sylvester method of inflating and expelling air into and from the lungs, I continue my resuscitating process. If after continuing in this position for ten or twenty minutes, the child does not breathe or cry, I plunge it into the cold bath and continue as before, but I do not allow the child to stay in the cold water more than five or six minutes. I continue alternating as above for two hours, if the child does not resuscitate. I have not infrequently continued this method of resuscitation for an hour and a half before being rewarded with a cry.

Having gotten the child to cry and breathe regularly, I wrap it in warm flannel and lay it away for some hours if very feeble.

Washing and dressing the child I

always delegate to some female, but have it done under my supervision. I have some clean warm water gotten; then having had the child anointed thoroughly with vaseline, sweet oil, or more commonly lard, to facilitate the removal of the vernix caseosa, I have the nurse proceed to wash it, using as an applicator a sponge or soft cotton cloth, using, preferably, castille soap in the water. Care is taken to clean the folds and joint flexures. If, as is occasionally the case, the vernix caseosa can not be removed without too tedious handling or if the child is feeble, I have it wiped dry and again anointed. I find it can be cleaned very easily at the next bathing.

The child being now ready to clothe, I dress the cord in the following manner: The stump, being from three-fourths to one inch long and tied as I invariably do it, I turn up on the abdomen after having wrapped it in absorbent cotton. I fasten it in this position with a piece of surgeon's plaster one inch wide by six inches long, which I place across the abdomen to hold the navel stump in place. I allow this to remain for four or five days, when, with a folded piece of cloth previously wet in warm water and laid on the plaster for ten or twenty minutes, the plaster can be easily removed. I prefer this method of dressing the navel to the bandage with linen and grease, so frequently used, for the following reasons: The dry dressing tends to mummify the cord and there is seldom any odor during the dropping off of the cord; the plaster does not slip nor need constant attention as does the bandage; it is more easily put on, it is more cleanly, and the child is less liable to take cold on removing it.

Having finished dressing the child, it is immediately put to the breast. This is done as a safe-guard to the mother. Should the secretions found in the breast at this time be not sufficient to satisfy the child, I do not allow the nurse to give it a sugar-teat or fat meat, having noticed long since in my practice that this produced what is commonly known as "three months colic,"

\*Read before the Tennessee State Medical Society, April, 1895.

which is nothing more or less than dyspepsia. My parting injunction to the nurse is, "Do not give the baby a sugar-teat nor fat meat." In case the child is not quiet and does not sleep as is usual, I instruct the nurse to give catnip tea with a small amount of whiskey in it. I have found from experience that this will satisfy the hunger and cause the kidneys and bowels to act. It is also a very fine antispasmodic. This is kept up from three to six days, at which time the mother's milk usually appears. Should the mother not give sufficient milk, or fail entirely, as is sometimes the case, or if I have what is to me the most inhuman of all human beings, the fashionable mother who does not want to nurse her own child because "she has not the time to stay with it, and besides it makes her grow old faster if she nurses it;" (such a mother should not be tolerated in good society, for there is nothing that suits the baby like the mother's milk), experience has taught me there is no one kind of food you can give these unfortunate babies—for they are unfortunate, either from a perversion of nature or perversion of motherly instinct, they never know a mother's love. The next best substitute is the wet nurse, provided you can get a healthy one and the ages of the children are nearly the same. This not being an easy matter, I usually first try cow's milk fixed in the following manner: Cow's milk one part, water (previously boiled) three parts, to which is added a small amount of sugar of milk, and one-half teaspoonful of lime water to the ounce of milk diluted as above. I feed this to the child, an ounce every two hours, gradually increasing until by the end of the first month the child is taking two ounces and the intervals of feeding have been increased to two and a-half or three hours. The amount of milk is now increased, each month an ounce, up to the sixth month, and the intervals lengthened to four hours. If warm weather, the child is bathed in tepid water daily, the clothing is light and loose fitting. I do not allow any tight bands; they interfere with the circulation and respiration of the child.

But with all care for minor details, I have not infrequently had to change the food a number of times before finding a food suitable for the child. I recall a case which came under my care last summer. I tried everything, cow's milk,

goat's milk, sterilized milk, condensed milk, Horlic's malted milk, Nestles food, Imperial Granum, and, lastly, I put the child on Mellin's food, when it began improving and continued to do so until it was in perfect health in about six weeks. The mother put him back on sterilized milk, saying she had the cow and the sterilizing outfit. From this time the child was continued on sterilized milk, though occasionally it would disagree with him. Then the mother, under my direction, would return to the Mellin's food and the digestion would again right itself. Other cases have come under my care in which I did not get any benefit from the use of Mellin's food. In fact I have most frequently gotten benefit from the condensed milk. I use Reed & Carnrick's brand; have found it agrees better than the brands ordinarily sold at the grocery; being put up for infant feeding, the milk is better selected and the cows from which the milk is taken are more carefully looked after in their water supply and food.

An important principle in the clothing of infants is to apply the garments so loosely that while they protect from the cold and secure the necessary warmth, they do not restrain the functional activity of the organs underneath. This was my chief reason for quitting the use of the belly band; the irregularity with which it is put on by the nurse, the changing it each day, or whenever it became soiled, and after a few weeks or months it is generally left off, endangering the child with cold.

I never use the nursing bottle with rubber and glass tube attachment, on account of the difficulty in keeping them clean and sweet. I use the plain rubber nipple, and when once used I direct the nurse to turn it inside out and put it in soda water. The bottle is also thoroughly cleaned and aired before using a second time. If these rules are followed strictly, my word for it, there will be a great deal less suffering among the artificially fed or bottle-raised babies.

A recent London *Lancet* has interesting allusions to the "successful use of electricity in trigeminal neuralgia and to long-continued treatment of tic douloureux (which is practically the same thing), with long and short applications of the current. Success is uniform in all cases."



## THE DAMAGE SUIT.\*

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The duty has been assigned me of preparing a paper on "The Damage Suit." It seems, therefore, indispensably necessary that the subject should be defined. You will be surprised to find that neither medical nor legal dictionaries attempt a formal definition of malpractice. I must, therefore, content myself with quoting a well-known authority on medical jurisprudence, which defines medical malpractice to be: "The unskillful or negligent treatment of a patient by a physician or surgeon, or some one undertaking to act as such, resulting in an injury to the patient."

Hence it will be seen that in order to maintain a suit for malpractice two things must appear, viz.: Unskillfulness or negligence in the treatment of the patient, and the injury to the patient.

The question therefore arises, how much skill is required? The answer to this is, ordinary skill; and ordinary skill is defined to be such skill as is usually possessed by members of the profession at the time and place when and where the individual is practicing. Extraordinary skill is not required unless the party expressly contracts for such a degree of skill. The law allows such a contract and will hold the party to it, if made. But the "code of ethics" forbids such contracts.

The impression seems to prevail that a physician or surgeon is held to a higher degree of skill than members of other vocations. Such is not the case. No doubt this erroneous impression frequently causes suits for malpractice to be instituted, and the sooner this impression is removed the better. The degree of diligence is simply such care and attention as the nature of the case demands. In illustration of this fact, Elwell states that the degree of care and attention which would be required in a case of iritis is very different from what would be necessary in a case of chronic rheumatism.

When a doctor is sued and charged with unskillfulness he has the right to prove

that he is a graduate from a reputable medical school, and also to prove his reputation for skill by his professional brethren. He also has the right to prove his treatment of the patient in the case being tried, and ask the opinion of members of the profession as to what degree it was skillful or otherwise; to show the care and attention given the patient, and to take the opinion of the members of the profession as to whether the same was reasonable or not.

A physician or surgeon is not to be judged by the result. He is not an insurer, and is only held to exercise reasonable skill, care and attention in the treatment of his patient. In case of doubt as to which would be the better treatment or operation or dressing, etc., he is simply required to use his best judgment.

The patient is required to co-operate with the attending physician or surgeon, and to follow his directions, and if he fails to do so, the physician or surgeon is not to be held responsible for the injuries resulting from such failure, whether the same be from disinclination or the pain of the patient. In either event it is the misfortune of the patient and not the fault of the doctor.

From a well-known medico-legal work we find the following rules have been thoroughly established:

1. A physician or surgeon, without a special contract for that purpose, is never considered as warranting a cure.
2. His contract, as implied in law, is:
  - (a.) He must possess a reasonable degree of learning, skill and experience, which is ordinarily possessed by others around him, in his profession.
  - (b.) That he will use reasonable and ordinary care and diligence in the treatment of the case committed to him.
  - (c.) That he will use his best judgment in all cases of doubt as to the best course of treatment.
3. He is not responsible for want of success, unless it is proved to result from want of ordinary skill, or from want of ordinary care and attention.

\* Read before the Tennessee State Medical Society, April, 1895.

4. He is not presumed to engage for extraordinary skill, or for extraordinary care and attention.

5. He is not responsible for errors of judgment, or mere mistakes in matters of doubt and uncertainty.

You will doubtless infer that I have some familiarity with questions arising in suits for malpractice, and I admit that I have had experience on the subject. I have been sued several times and yet never compromised or lost a single case.

Elwell declares that nine-tenths of all the cases of malpractice that are brought before the courts for adjudication, arise either from amputations, fractures or dislocations.

This is from the fact that members of the legal profession fail to acquaint themselves with the difficulties and even probabilities which the surgeon must encounter. They do not know that in many fractures and dislocations, shortening and deformity are the rule.

Professor Austin Flint, Sr., abandoned the practice of surgery and confined himself exclusively to the practice of medicine because of the danger arising from damage suits. It does really seem that the safest course for a surgeon to pursue—not knowing what a jury might do—is to make over his property to his family.

One cause of suits against the members of our profession is the enmity, jealousy and rivalry that unfortunately exists among them. Too often is it the case, that a doctor is the one, that in some way, is responsible for the litigation.

Our profession is justly distinguished for its charity, and the gratuitous service it renders the poor, yet strange as it may appear, more suits are brought by pauper patients for damages for alleged malpractice than all other classes combined; and, according to my experience, they are the most critical, the most suspicious and the least grateful of patients.

I venture here to relate a case that occurred with my father:

During his sojourn in Augusta, Ga., he had an infirmary for the treatment of slaves, when a wealthy planter sent to his institution a negro upon whom it became necessary to amputate the thigh. Sometime afterward the slave died, and the owner brought suit against my father, for his worth as a slave. This suit was brought by the Hon. Alexander H. Stephens. My father employed the Hon.

Eli Cummings, ex-Governor of Georgia, and obtained the depositions of the noted surgeons Valentine Mott, Samuel D. Gross and Eli Geddings. After the reading of these depositions, the testimony was so overwhelmingly in favor of the defendant that the Hon. Alexander H. Stephens got up in court and dismissed the case at the plaintiff's cost.

The interesting features in this suit are: First, my father claimed to have made more reputation in the case than any other thing which up to that time had happened him; and, secondly, the strange occurrence of the gentlemen connected with the case, viz., that the Hon. Alexander H. Stephens, my father, and ex-Governor Cummings—all graduated in the same class from the University of Georgia, taking the first, second and third honors.

Let the medical profession act in harmony, let jealousies and rivalries be repressed, let them stand shoulder to shoulder in supporting and maintaining honorable medicine.

Let them down quackery and empiricism, let them rebuke the ignorant pretender and bring to justice the presumptuous charlatan, at the same time that they resist the unjust attacks that are so often made upon the meritorious members of the profession. Whenever one of these suffers wrong the reflex action is injustice to all.

Let us all remember that "united we stand, divided we fall." In union there is strength, and if the profession as one body were to unite for the purpose of preventing injustice being done its members by vexatious and oppressive damage suits, brought for the purpose of speculation by worthless and unscrupulous parties, the beneficial effect of such action would not only be immediate but permanent.

I, therefore, urge every physician and surgeon to make active and cordial exertions in this behalf, not only for his own security, but also for the safety of his brethren and for the welfare of the entire profession.

#### How to Abort Syphilis.

Feremal (*Annal de Lyon*) claims that Bichloride of Mercury (gr. xii to 3i —) painted on a chancre as soon as it appears, kills all specific germs, and there will be no systemic manifestations. The local sore then to be treated on general principles.

## CHLOROFORM ANESTHESIA.\*

C. HOLTZCLAW, M.D., CHATTANOOGA, TENN.

When in the history of civilization, mankind had become physically degenerated; when the nervous organization increased so that the sensitive nerves could no longer endure pain, there came a universal urgent demand for something that would produce insensibility without destroying life. It was left to America to discover and grant this grand boon to suffering humanity.

It is unpleasant to know that there were three men who claimed this discovery and entered into a disagreeable and unfortunate controversy concerning it.

Without entering into the merits of the case, I take pleasure in saying that I have had the honor to see two of the greatest men in the medical world; whose names will be handed down to posterity; two of America's sons; Marion Sims, who revolutionized the treatment of diseases of women, and Crawford Long, who discovered anesthesia. Pardon these preliminary remarks, as they are only intended to excite your attention to some practical points on the subject of anesthesia by chloroform.

This agent was introduced about a year after ether, by J. Y. Simpson of Edinburgh. It is needless to state that statistics show that chloroform is more dangerous than ether. The figures for the last four years, from carefully collected reports, show the alarming result that of 166,812 chloroform cases there were 63 deaths; a ratio of 1 to 2,647. Of 26,320 ether cases there were only two deaths; a ratio of 1 to 13,160. It has also been shown that about the same results have obtained for the last forty years.

Still in spite of the published results; in spite of the trade made by the writers; physicians continue to administer and patients to demand the administration of chloroform rather than ether. Why is this? Why the persistence in the use of this dangerous and baneful drug? The reasons are several. It is more pleasant to the patient; it is more easily adminis-

tered; a less quantity is necessary; it is cheaper; less time is consumed; and there are left no bad after-effects, such as nausea, vomiting, bronchitis or nephritis. In the statistics to which reference has been made, the deaths that occurred were sudden and immediate. These were reported and registered. Deaths, from the subsequent effects of ether, such as nephritis, pneumonia and bronchitis are not reported.

It is my honest belief that as many or more deaths occur from these causes than from the immediate effect of chloroform. In 14 years experience, I have anesthetized, or had it done under my supervision, nearly 3,000 cases by chloroform, and without a death. During the same time I had 150 or 200 cases of ether narcosis followed by three deaths in from 1 to 3 weeks; one of which was from nephritis, and two from pulmonary complications induced by the ether.

I am satisfied that if the statistics would be carefully collected of deaths occurring from subsequent effects of ether, there would be found more than from chloroform.

It is to the prevention of these sudden deaths that I desire to call your attention. They can be prevented to a very great extent, for they are almost invariably caused by ignorance or carelessness.

What is the cause of this sudden death? Investigators have shown that the prime cause is anemia of the brain affecting throat or lungs.

The results of the Hyderabad Commission show that it is from effect on the respiratory function and not on the heart action; that it is only necessary to watch the respiration and not keep the finger on the "deadly pulse;" and that so long as the breathing is normal there is nothing to fear from heart failure. In eight cases out of ten I think this idea is correct. But I think it well enough to watch both carefully and stimulate the one which should flag.

It has been my observation that chloroform is much better borne in warm cli-

\*Read before the Tennessee State Medical Society, April, 1895.

mates than in cold. Why this is true I am unable to state. Excessive meat diet is claimed by some observers to render chloroform more dangerous. These are, however, only general considerations.

In the preliminary preparations to be observed where possible, always direct that the bowel be moved freely during the twenty-four hours before the contemplated operation, and that a light diet of soup or milk be allowed. No food should be taken for six hours immediately previous. There is a prevailing opinion that heart disease, or supposed heart-disease is a contraindication to chloroform. This has been ably refuted by Dr. Fisher Clarke of Stockton, Cal., in an article in the *Medical Record*, April '94.

The administrator should endeavor to allay any nervous fears by examination of the heart for the moral effect if nothing more, and to quiet the mind of the patient by assurance, in a gentle voice and kind words, that there is no danger.

Fright has undoubtedly a weakening effect on the heart. Always give strychnia, sparteine or morphia with atropia, hyperdermically, fifteen minutes before the operation.

See that the clothing is loose and open so that the respiratory movements of the chest and abdomen can be observed.

A perfectly prone decubitus is necessary. Never administer chloroform unless this can be obtained.

Death sometimes occurs with the first few inhalations, before any general anesthesia has commenced. Rosenberg, in an address to the Medical Society of Berlin, November 28, '91, showed that he had demonstrated that such death occurred, "through the effect on heart or lungs, due to reflex irritation originating in the nasal mucous membrane and transmitted to the nerves having a paralyzant action on heart and respiration." He also claimed that by "anesthetizing the mucous membrane of the nose with a four per cent. solution of cocaine, these reflex disturbances are prevented, and in view of the fact that cocaine is an antidote to chloroform, its absorption will in another way obviate its injurious effect."

This is certainly a very plausible idea. But in view of the fact that sudden death has been caused by spraying cocaine in the nasal mucous membrane, I have used and suggest the practice, in order to obviate

both these dangers, of instructing the patient to breathe through the mouth instead of through the nose. With this method there is less coughing, strangling, and resistance, and less danger of syncope on the part of the patient.

The method of administration is a very important consideration. The paper cone stuffed with cotton or cloth is to be positively interdicted as being exceedingly dangerous. The ordinary towel, handkerchief or napkin is better, but presents a too concentrated vapor and is liable to excoriate whatever skin it touches. The various new inhalers are cumbersome, expensive and impracticable. The best inhaler is that introduced by Esmarch. Several varieties are sold by the instrument dealers, one of which I present to your notice. Another involving this principle, which I also show, can be bought at any general store for a dime. It is, as you see, an ordinary concavo-convex or hemispherical fruit-strainer or seive, made of woven wire and covered with yarn stocking cloth, and is attached to a handle. By this method it has been shown that, even with complete saturation of the cloth, the patient inhales only a twenty to forty per cent. dilution of the vapor, which is much less dangerous than one more concentrated. The face is to be covered by the inhaler, on which, in the beginning, only a few drops must be poured. Any coughing, any indication of spasm of the glottis, or any undue resistance on the part of the patient, necessitates the temporary removal of the inhaler. When this shall have ceased, commence again slowly, gradually increasing the supply, but with as much uniformity as possible by what is known as the "drop method." This method is best obtained by a drop-bottle suggested by myself, a specimen of which I take pleasure in presenting.

It consists practically of a ground-glass stoppered bottle on the rim of which a small lip is blown. From this lip there extends a small groove downward about one-half the length of the neck. On the opposite side, about the middle of the neck, there is a small hole for the admission of air. In the ground-glass stopper, there are two grooves on opposite sides, extending one-half the length of the stopper. When in use the stopper is turned so that the grooves come in apposition with the air hole on one side and the groove in the



neck on the other. This adjustment can be so regulated as to permit a stream or only a drop to flow. When not in use, the stopper can be turned one-half way round, removing the grooves from the air hole on one side and the groove in the neck on the other, thus effectually closing the apertures so that the bottle can be carried in the satchel or pocket, and used as a supply bottle without chances of evaporation or leakage. I must insist upon the drop method with Esmarch's inhaler as being the most convenient, agreeable and safest method that can be used.

The existence of complete anesthesia can be demonstrated by the complete relaxation of muscles, or the absence of the reflexes.

Any indication of cardiac depression must be promptly overcome by the hypodermic injection of ammonia, alcohol, digitalis or nitro-glycerine, which must be kept ready for use.

The respiratory function demands the most careful attention; the cessation of which may be caused by the mechanical obstruction to entrance of air into the lungs by the falling back of the tongue into the throat, or by the closure of the epiglottis upon the glottis, or by paralysis of the nerves presiding over the function.

The alleviation of the first two is usually attempted by drawing the tongue forward with a pair of forceps or a suture. This procedure is unnecessary, unsurgical and brutal, as it has been anatomically demonstrated that it does not accomplish the desired results. All that is necessary to relieve this mechanical obstruction is to place the hand under the neck and elevate it, thus throwing the occiput backward and the chin upward. Then place the fingers under the rami of the lower jaw and press forcibly inward and upward. Immediate relief will invariably follow.

The differentiation between mechanical obstruction and paralysis of respiration is, that in the former there is an ineffectual attempt to breathe indicated by violent efforts of the intercostal muscles and diaphragm. With paralysis, this does not occur, and this condition should be regarded as serious and the attention directed to overcoming it.

Paralysis of respiration is far more common than cardiac syncope, but is more easily remedied. This can be accomplished by one of four methods.

Remembering the fact that in chloroform narcosis the condition of the brain is that of anemia, the head should be promptly placed lower than the body, thus inviting the flow of blood to the brain. If necessary, grasp the patient's ankles and standing on a chair let his head hang down to the floor. Direct an assistant in the meanwhile to administer hypodermically a stimulant such as strychnia, nitro-glycerine, caffeine or alcohol. If neither of them are efficacious, perform Sylvester's method of artificial respiration. The fourth method is one which I now always use first, and since I discovered it three years ago, have never found it necessary to resort to the others. The method is simple, prompt in action and effectual. It consists simply in dilating the sphincter ani. I had noticed for several years that dilatation of the sphincter ani, under anesthesia, would cause deep and rapid respiration with a peculiar snoring sound on inspiration. This, I supposed to be a reflex irritation of the respiratory centre through the sympathetic system. Operating before the class of the Chattanooga Medical College upon a case of fissure-in-ano under chloroform anesthesia, my chloroformist suddenly and frantically announced that the patient had stopped breathing. Suddenly it occurred to me to test the theoretical idea of reflex irritation. Immediately I rapidly dilated the sphincter ani and was promptly rewarded by commencement of respiration. Since then I have had occasion to use the method six or seven times, and have invariably found it to be successful.

Above all things, in chloroform accidents retain your presence of mind and do not allow yourself to become excited. The patient needs the active, prompt and intelligent attention which can not be given in a flustered state.

There is another important point to which I desire to call attention, and that is the employment of incompetent persons to administer chloroform. The task is usually relegated to some inexperienced medical student, or to some careless or incompetent doctor, who, either from curiosity in watching the operation, from characteristic inattention or from absolute ignorance does not observe or appreciate the signs of approaching danger, or know how to treat the condition when it occurs. Always obtain the most careful,

competent and painstaking physician possible, to administer chloroform; one who will give his undivided attention to the performance; who understands and appreciates the danger signals and can promptly meet them with the proper remedy.

The employment of incompetents for the administration of chloroform has produced many deaths and will continue to cause many more if persisted in.

It is no professional derogation or disgrace to administer anesthetics, for to do it well requires just as much scientific knowledge, just as much practical art as to perform a laparotomy or to amputate a leg.

A celebrated German surgeon was once performing an operation, when the chloroformist, a medical student, became so engaged in the operation that he neglected the patient, who coming out from the influence of the anesthetic rose to an upright position and began to look wildly around. The professor administered a scathing rebuke to his assistant by yelling to the patient, "Lie down there; you have got nearly as much curiosity as that medical student."

In conclusion, the deductions which I wish to draw for the safe administration of chloroform are:

1. The employment of a competent physician to give it.
  2. No food should be allowed for six hours previous.
  3. Quiet the mind of the patient by examination of the heart and the assurance of no danger.
  4. Obtain a prone position and loose clothing.
  5. The hypodermic injection of morphia with atropia, or strychnia.
  6. Esmarch's inhaler, with my dropper.
  7. Begin with very small quantity and remove inhaler when there is coughing or undue resistance.
  8. Insist with mouth breathing so long as consciousness lasts.
  9. In accidents, lower head, dilate sphincter ani, and use artificial respiration.
- The strict observance of these rules positively insures the administration of chloroform to be as safe as that of ether; and leads me to declare that as I have never had a death from chloroform, I intend to use it until I do have one.

## TRANSLATIONS.

### DEATH FROM HANGING AFTER TRACHEOTOMY.\*

DR REINEBOTH, HALLE.

On April 17, tracheotomy was performed on a patient on account of cancerous tumors of the neck which interfered with deglutition and respiration. Nutrition was carried on by means of an cesophageal tube until June 27, when the obstruction became insuperable. At 10.30 P. M. of June 30, the patient left his bed to go to a closet, and was not again seen until a search was instituted, which resulted in the discovery of his body at 1.30 A. M. The body was clothed in a shirt, drawers and stockings, and was suspended from the lowest crotch of an acacia tree on a hillside. The knees were bent, and the

dorsal surface of the feet and the toes touched the sloping ground. The noose was above the canula. From pieces of rope, a handkerchief found in the crotch of a taller tree, and other evidences, it appeared that some time had been spent in selecting a place for suicide, while one of the watchmen had heard a rustling in the bushes in the neighborhood of the acacia at about midnight. The body, however, at half past one, was quite cold and stiff, indicating that death must have occurred quite soon after hanging. The position of the body was such that if the patient had retained consciousness even long enough to notice that he could still breathe, he would probably have risen to his feet. A layman would certainly have

\* Condensed translation from the Quarterly of Forensic Medicine and Public Sanitation, 2d vol., 1895, by A. L. Benedict, A. M., M. D., of Buffalo.

considered that stoppage of respiration would be inseparable from suicide by hanging. It is probable, therefore, that consciousness was immediately lost, just as in death by hanging under ordinary circumstances, and from the same cause, compression of the great cervical vessels. In spite of the seriousness of his disease, the patient's strength was normal, as, indeed, is shown by the preparations made for suicide.

At the post-mortem examination there was found anæmia of the cerebrum, slight distension of the vessels of the pia, engorgement of the pons and medulla, and marked distension of the arteries of the base. The mechanical relations of the circulation for the head, and especially for the brain, are the same for hanging with and without access of air to the lungs. Evidently the tumors of the neck had not prevented compression of the vessels. The lack of ecchymoses on the serous membranes of the thorax deserves mention; otherwise, the presence of pulmonary gangrene, pneumonia and pleurisy, which had been diagnosed during life, obscured the condition of the thoracic viscera so that it was not significant in the present connection. There was no special hyperæmia of the abdominal organs.

Mahon has reported the case of a highwayman condemned to death in London in 1801. A young surgeon was persuaded to open the trachea and introduce a small canula before the hanging. After execution the body was delivered to the relatives, who took it without delay to the surgeon. He opened the jugular vein, and attempted in other ways to resuscitate the man. The latter opened his eyes, gave a deep sigh, again fell into a swoon and died. The details of this case are not considered altogether reliable. A case is also referred to, contributed by Taylor to Smith's "Legal Medicine," in which the mere mention is made that opening the trachea prolonged life during hanging to three-quarters of an hour. Deininger, in 1884, reported a case of death from hanging in which compression of the air passages was prevented by the lodgment of a fixed knot under the chin. The body was found half sitting, with the buttocks only a hand's breadth from the ground and the heels resting on the ground. Erik Holst has also published a similar case of suicide. From lack of imprint of the noose

on the neck from the thyroid to the right ear, it seemed probable that the passage of air was not hindered. A similar case of suicide is mentioned in Schmidt's *Annual*, vol. 85, in which, however, the base of the tongue closed the pharynx and larynx.

[The translator would suggest that some of these cases might have been murder with subsequent suspension to simulate suicide.]

Schwenninger, experimenting with rabbits and cats, Paul Baron with dogs (the latter quotes, also, von Mahon and von Redrig), found that death did not occur from hanging after tracheotomy. Tammasia has made a long series of experiments in order to determine the relative importance of compression of the vessels, the vagi and the trachea in the production of death. The details not being given, only the general conclusion can be stated that, after compression of the vessels of the neck and the vagi, no sudden death occurred. Misuraca also experimented on the same lines, using dogs. The details of his experiments also are unknown to the writer, but he came to the conclusion that, though previous tracheotomy did not prevent death from hanging, the appearances both before and after death were different from those of ordinary hanging.

The writer experimented with two series of five rabbits each, the former being simply hanged, the latter hanged after tracheotomy. Immediately after simple hanging there was a stoppage of respiration and the pupils became somewhat contracted. Then followed regular, violent, inspiratory movements. A corresponding expiratory movement could not be detected. After a variable duration of these respiratory movements, there were violent extensor spasms separated by long pauses. A pretty sudden maximum dilatation of the pupil coincided with the cessation of the spasms; the corneal reflex was lost and respiratory movements ceased. In two cases, the so-called terminal respiratory movements were noticed immediately before death. The heart continued to beat up to about a minute and a-half after the cessation of respiratory movements. Death resulted in all these cases in from three to three and a-half minutes. With strangulation is connected a marked rise of temperature, amounting to about 40°C., at the moment of death.

The symptomatology of death in the second series of animals, hanged after tracheotomy, differs most conspicuously in the delay of death. There intervened from  $10\frac{1}{2}$  to  $19\frac{1}{2}$  minutes between suspension and death in the second series. Even in this series, the heart beat persisted only about a minute and a-half after the cessation of respiratory movements. Terminal respiratory movements were noted in three animals on whom tracheotomy had been performed, in the other two the suspension was discontinued before this stage was reached. In one of these two, the thickness of the cord prevented compression, and the rabbit was cut down at the end of thirty minutes and dispatched with a blow of the hand.

Appearances indicated that the rabbits hanged without tracheotomy, were unconscious. It was difficult to decide this question in the case of the second series. One rabbit pricked up its ears at a shrill whistle after two and three-quarters minutes suspension. Another moved its eyes after seven and a-half minutes. Baron's dogs were conscious and wagged their tails. The absence of corneal reflex, however, showed that they must have been unconscious part of the time.

In order to learn if the stretching movements were really convulsions, the last animal was cut down and freed from the noose six and a-half minutes after the beginning of the experiment. It turned wildly about its long axis, six or seven times, with its head and legs stretched backward and then remained a short time lying on its side with the head raised; then it sat up. It seems improbable to the writer and to Baron that the movements were anything else than genuine convulsions.

The marked rise of temperature noted in the first series was not observed in the second. In one of the latter animals, the rise was only from  $38.3^{\circ}$  to  $39.3^{\circ}$  C., the latter temperature being taken immediately after death, in the abdominal cavity. In the experiment in which death occurred nineteen minutes after suspension, the rise was only  $.1^{\circ}$  C., before death and  $.3^{\circ}$  after death.

The brains of the animals of the first series all showed the same changes. Very delicate and slightly branched vessels were visible in the pia along the greater fissures. The large vessels of the base were slightly

distended and the brain substance was pale. In the second series, the whole pia was marked with numerous branching vessels filled to the smallest twigs. The arteries of the base were likewise distended to the finest branches. The pleuræ of the first series showed numerous ecchymoses; those of the second series only a few. Since, in the latter series, the aspiratory force of the thorax cannot be considered, the few ecchymoses must be ascribed to vaso-motor spasm. There was just as little indication of pulmonary hyperæmia in the one series as in the other. The animals which were simply strangled showed a more marked fullness of either the right auricle, right ventricle, or both, as compared with the left side of the heart. In both series, the fluid contents of the heart surpassed the volume of the clots. The liver was congested in all cases. The condition of the spleen and of the intestine varied. The kidneys uniformly showed a purple border at the boundary of the medulla.

Regarding the acidity (?) of the blood, the same result was obtained in all nine instances in which it was examined—including the rabbit killed by a blow. By spectroscopic examination the blood from the left ventricle showed only one absorption band, that of reduced hæmoglobin. Kotelewski's investigations agree that the blood of a corpse contains only reduced hæmoglobin. This substance is found as early as fifteen minutes after death.

N.B.—The translator takes occasion to protest against experiments on animals such as are detailed by Dr. Reineboth. These experiments have simply confirmed theoretical speculations. Their practical bearing is, at most, a medico-legal one. It must be very evident that the mere difference in weight prevents the exact application of these experiments to the case of human beings. We might argue that because a cat can jump thirty times her height without injury, a man can do the same; on the contrary, at the same distance, the lighter animal would sustain less injury than the heavier and larger one. It does not seem possible that a rabbit's weight can put any such tension on a cord as to cause compression of the cervical vessels or the vagi comparable to that effected by a weight of 150 pounds,



more or less, as in the case of human suicide. This is one of the instances in which a difference in degree amounts practically to a difference in kind. Experiments of

this nature tend to bring into disrepute vivisections performed with an entire absence of pain on the part of the animal and destined to fulfil some useful purpose.

## CORRESPONDENCE.

Editor of the Medical and Surgical Reporter.

SIR:—In Dr. Keiser's admirable article in your issue of May 11, 1895, he makes reference to the "King's Evil" in such a way as to apparently imply that the English people were alone in their belief in the efficacy of the "Royal touch." The practice was not peculiar to England. The French kings laid claim to the power of healing by "touch," even from the time of Anne of Clovis. And on Easter Sunday, 1686, Louis XIV "touched" 1,600 persons. But even that proudest of French kings did not ascribe the cure to the *royal touch*, for he used the following words: "*Le roy te touche, Dieu te guerisse.*"

The belief was in the descendent of a Saint, not in the King. When Charles Edward Stuart, the Young Pretender, would convince his followers of his legitimacy in 1745, he "touched" a scrofulous girl.

The office for the ceremony of "touching," which remain in the book of Common Prayer to 1719, goes to show that the power of healing was not due to the kingly office but inherited from the Saintly Confessor. Happily the whole superstition is removed from amongst us: but it is well to clearly keep in view the actual belief of the time and not be misled by the very misleading title the "royal touch."

The second matter I would draw attention to is the "Sympathetic Ointment" of Kenelme Digby. No greater evidence of a false theory producing good results ever happened in medicine than the use of Digby's powder. In his pamphlet "*Of the cure of Wounds by the Powder of Sympathy*," published in London A.D., 1650, Digby tells an absurd story of a Persian who traveled across Asia and Europe to confide to him the secret of the "Powder of Sympathy." It is difficult to say what Digby's object was in the story or in the introduction of the powder.

Except Defoe, no Englishman was in so many scrapes and strange scenes. He had belonged to all the political parties of his time and had fought duels with every class of politicians. Amongst his other studies, medicine came in for some attention and it is just possible that from observation he found the frequent dressing of wounds injurious, and that he invented the fable to correct the faulty practice of the surgeons of his day. Digby was quite capable of inventing the story to gain general acceptance for his powder, and we cannot think that the theory of "sympathy" put forward was seriously believed in by the friend of Decartes.

GEORGE FOY.

DUBLIN, June 2, 1895.

### Tearing Out of Nerves as a Cure of Neuralgia.

Adenot, of the French Congress of Surgery (*Revue de Chirurgie*), advocated, in neuralgias, section of the nerve as high up as possible, then seizing the peripheral end with a pair of forceps it is to be wound around it until as much is removed as possible. Eight or ten centimetres can thus be taken away. Good results have been obtained by this method of treatment by Mollière, Tripier, and Gangolphe. Chipault also spoke favorably of the method, having had a complete success with it in a case of neuralgia of the forearm which had previously resisted section of the ulnar nerve.

### Menorrhagic Chlorosis.

Dr. Ch. Ligeois prescribes:

Sulphate of iron.....	gr. xxxviii.
Ex. of hyoscyamus.....	gr. xv.
Alcoholic extract of hydras. canadensis.....	gr. lxxviii.
Powdered licorice root.....	gr. lxxviii.

Make 100 pills Sig: Two at each meal, both during and between the menstrual periods.

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SATURDAY, JUNE 15, 1895.

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## EDITORIAL.

### "IN THE BENEVOLENCE BUSINESS."

At a recent anniversary of one of the large and needy hospitals in the millionaire district of this city, says the *Medical Record*, a speaker filled with enthusiasm for the benefits of the present hospital system is reported to have said that one of its greatest boons was the saving of expense to the rich man. In proof of such an unjust and outrageous claim he bolstered his statement by comparing the items of expense when a patient was treated at an ordinary hotel by his regular medical attendant with those in a well-equipped charity institution supported by the liberal contributions of a Christian organization. Instead of a daily expenditure of \$5 for hotel accommodations, \$5 for a trained nurse, \$5 per visit for the physician, and \$5 more for the board of the nurse, not to speak of the cost of the medicines from an expensive pharmacy, the patient who entered the hospital in question needed only to pay for his board and a private room. All other outlays

were unnecessary and were included in the one item named.

"Naturally in this connection we think of the physician, who is the only one whose services are virtually considered of no account. The high price of the room added to the donations of the charitable enable the hospital to make a handsome profit, even including the general expenses for nurses, medicines, instruments and dressings. The attending physician or surgeon, who might be looked upon as the real personage who makes any hospital what it is, is not only entirely ignored, but a deliberate attempt is made to swindle him and his outside associates in attempts at gaining a legitimate livelihood. It would appear from all this that the evolution of medical charity is distinctly in the direction of eliminating the doctor. Another step in this direction would be for hospital managers to go into the wholesale proprietary medicine business and prescribe remedies on their own ac-

count free of cost to the patients. Why should not money be invested as well and as profitably in medical charities and millionaire clinics as in railroads, wheat and mining stock? The men who run the hospitals can command all the needful capital on the hypocritical plea of charity to the poor, can obtain medical services free, can build magnificent edifices, endow beds for cast-off servants, beg for church subscriptions, and what is to hinder them from running the medical charity business entirely in their own interests? They are doing it all the time, though less openly than the distinguished speaker in question has so frankly admitted."

Just so! "What are you going to do about it?"

A "well-equipped charity institution supported by the liberal contributions of a *Christian* organization" is good, but a well-equipped charity institution supported by the liberal contributions of an organization, to which, in the popular estimation, the term *Christian* would be utterly irrelevant and misapplied—for instance the ordinary State legislature—is much better in that it is a cheaper method of securing the capital necessary to enable professional philanthropists to carry on the business of benevolence and compete with the untaxed foreign production of medical paupers.

That this liberality obtains in the Commonwealth of Pennsylvania (in the case of this legislative body whose proclivities may be presumed on the theory that actions speak louder than words, no attempt has ever been made to misapply the term *Christian*), will appear from the appended incomplete list of appropriations to medical pauper-factories as reported by the Appropriation Committee at the present session. The first column of figures represents the modest amounts asked for and the second column the parsimonious alms to the needy medicants as pared down by a miserly committee.

Medico-Chirurgical Hospital .....	170,000	150,000
University of Pennsylvania .....	500,000	200,000
University of Pennsylvania Hospital .....	100,000	55,000
Jefferson Medical College .....	165,000	112,000
Pottsville Hospital .....	30,000	20,000
Columbia Hospital .....	5,000	3,000
Ham. of Medical and Surgical Hospital, Reading .....	26,000	10,000
York Hospital and Dispensary .....	16,000	4,000
Pottstown Hospital .....	18,000	17,500
Mary M. Packer Hospital, Sunbury .....	10,000	8,000
Women's Hospital, Philadelphia .....	50,000	8,000
Carbondale Hospital Association .....	12,000	12,000
Home Hospital Association, Erie .....	6,000	6,000
St. Vincent's Hospital Asso'n, Erie .....	6,000	4,000
Corry Hospital, Erie Co. Association .....	10,000	4,000
Chester County Hospital .....	25,000	6,000
Reading Hospital .....	30,000	15,800
Good Samaritan Hospital, Lebanon .....	13 050	6,000
Williamsport Hospital .....	30,000	10,000
Meadville City Hospital .....	7,500	5,000
Spencer Hospital, Meadville .....	10,000	5,000
Lackawana Hospital, Scranton .....	111,000	25,000
Kane Summit Hospital Association .....	7,372	4,000
Harrisburg Hospital .....	33,000	5,000
Shenango Valley Hospital .....	10,300	7,500
Bradford Hospital, Bradford .....	7,000	7,000
Lancaster General Hospital .....	20,000	4,000
Charity Hospital, Norristown .....	10,000	7,000
Wilkesbarre City Hospital .....	60,000	25,000
Altoona Hospital .....	15,600	12,000
Pittston Hospital Association .....	25,000	14,000
Samaritan Hospital, Philadelphia .....	12,500	3,000
Christopher's Hospital for Children, Philadelphia .....	10,000	4,000
Beaver Valley General Hospital .....	25,000	7,000
Sharon and Sharpsville Hospital .....	17,000	9,000
Memorial Hospital Association, Monongahela City .....	12,000	12,000
Adrian Hospital Association, Jefferson county .....	45,000	30,000
Conoquenessing Valley Hospital .....	12,500	12,500
Gynecian Hospital, Philadelphia .....	35,000	25,000

Many ideas of interest to medical men may be inferred from a thoughtful consideration of these figures in connection with the remarks above quoted. It must be admitted that the position of a legislature in philanthropizing with the funds of its constituents is not an easy though, perhaps, an enviable one. For, on the one hand, public opinion, although it favors a liberal support of all charities for the genuinely helpless and needy, and especially for such charities as are "entirely dependent upon voluntary contributions"—from private individuals, will not at least theoretically, tolerate the reckless or injudicious expenditure of the State's treasure, nor the subversion of public money to the service of ends confessedly personal. On general principles, the money of the people must be applied only to genuine needs. Too much must not disappear in transit on its way to do its designated service. It must not be loosely thrown into the hands of irresponsible parties who will fail to ensure its certain and conscientious application to the pur-

poses for which it was granted. Practice has demonstrated that reckless, indiscriminate, injudicious, and needless handling of the public funds is something more than tempting to petty larceny from the tax-payer; it is liable to breed the gentleman-pauper (thief), and curiously enough, seems to have a tendency to impair confidence in law-makers and in public officials generally.

On the other hand, failure to furnish sufficient protection to the industry will

drive professional philanthropists out of the benevolence business as soon as the outlay becomes equal to or exceeds the income.

Furthermore, too niggardly contributions to worthy objects would be liable to produce in the popular mind a confusion of the State with the Church, and religion is never improved by an alloy of politics.

The entire withdrawal of "State support" will go a long way towards solving the "hospital question."

## ABSTRACTS.

### THE THERAPEUTIC USES OF GUAIACOL.

Although the therapeutic history of guaiacol has been known for the past few years, the only clinical observations on which any reliance can be placed with regard to its rational employment are of quite recent date. Formerly, guaiacol was extracted from various kinds of creosote, impure products which were more or less charged with phenol and, consequently, likely to give rise to accidents. Since 1893, a pure product, perfectly definite, has been obtained by synthesis, by M. Béhal and M. Choay. Synthetic crystallized guaiacol should replace the liquid guaiacols in materia medica. It is the same which was used during the present year by M. Linossier, M. Lannois, M. Guinard and others, in experiments, the results of which illustrate the therapeutic value of guaiacol for external and internal use.

Internally, guaiacol is generally well borne by the stomach owing to its local anæsthetic action. It may be given by the mouth or hypodermically. When given by the mouth, the dose is from 1.6 grain to 8 grains during the twenty-four hours; in pills containing from 10.8 to 11.6 grain in capsules containing the same quantity of guaiacol in an oily solution; or in alcoholic solutions, as, for example: 1. Guaiacol, 150 gra.; rum, 450 gra.; distilled water, 6½ ounces.—From eight to ten teaspoonfuls may be taken every day,

in milk or water. 2. Guaiacol, 150 gra.; vin de Bagnols, 33 ounces.—From one to three dessertspoonfuls may be taken during the day.

When hypodermically administered, smaller doses are used; from 1.6 to 4 grains of guaiacol dissolved in perfectly sterilized and neutral olive oil. A one-to-five solution is generally used, but equal parts may be employed.

Guaiacol may be used in:—

Pulmonary phthisis. It seems to be especially indicated in cases where the progress of the phthisis is sluggish, succeeding the period of softening with abundant expectoration. It should be handed prudently in erethetic phthisis with a tendency to congestion and hæmoptysis, and in tuberculosis in the beginning. The drug should be given, according to the condition of the digestive canal, by the mouth or hypodermically. The hypodermic injections of Weill and of Diamantberger are preferred in the beginning by certain clinicians. Weill employed the following formula: Crystallized guaiacol, 75 grains; sterilized oil, 3.25 ounces. From two to three syringe-fuls of this solution injected every day.

2. Chronic bronchitis, dilatation of the bronchi, fetid bronchitis, and pulmonary gangrene. In three cases of pulmonary gangrene, Weill obtained very good results with hypodermic injections of guaiacol.



The solution should be more concentrated than that used in phthisis; for instance, 15 grains of guaiacol and 150 grains of sterilized oil. In pulmonary gangrene, according to M. Lop, from one to four syringefuls may be injected every day. The same procedure and the same doses have been successfully tried in foetid bronchitis, and in dilatation of the bronchi with sphacelus of the mucous membrane. In chronic bronchitis and in dilatation of the bronchi, Grainger Stewart recommends guaiacol not only in hypodermic injections but in intralaryngeal injections. He employed the following solution: Crystallized guaiacol, two parts; menthol, ten parts; sterilized olive oil, eighty-eight parts.—Sixty grains of this were injected into the larynx twice a day. M. Naught also employed this method in foetid bronchitis, with good results. All laryngologists, at present, use guaiacol for direct injections into the larynx and the trachea.

3. Purulent pleurisy. In this affection Robertson employed injections of guaiacol with very good results. He found that they were efficacious in diminishing the purulent secretion after empyema.

In the external use of guaiacol painting has become a common practice, and it is as important as the hypodermic injections, or its administration by the mouth. It has been used pure, or with equal parts of sterilized olive oil or glycerin. For the first painting, thirty grains of oil solution should not be exceeded, as stronger doses have provoked symptoms of collapse. The solution should be applied over a large surface. The preferred regions may be the forearm or the calf of the leg. Guaiacol has also been employed in combination with tincture of iodide and vaseline.

Painting with this drug has been used.

1. Tuberculosis. In this disease the paintings seem to have a powerful antipyretic action. In miliary tuberculosis and in the acute attacks that occur during the course of chronic tuberculosis, according to Bard, Courmont and Boix guaiacol, gives the most remarkable results. Boix reported several cases where not only small doses resulted in rapid and intense effects on the fever and on the general condition, but the effects were apparently lasting and definitive. In several cases there were bacilli in the sputum. The drug should not be used in the treatment of very feeble

persons in the last stage; moreover, it has no action on the hectic fever of this period.

2. Typhoid fever. Montagnon employed paintings with guaiacol over the inguinal region when the temperature was high, and he was able to combat hyperthermia in twenty patients. Eight grains were used at a time, and not more than thirty grains during the day. With repeated paintings Moisy was able to maintain an almost normal temperature, and he noticed that the antithermic action of the drug seemed to increase. Cheron, however, pointed out the dangers that might follow a too prolonged use of the drug, owing to the insufficient renal elimination of guaiacol. Montagnon recommends the use of guaiacol especially in cases where the cold bath is contraindicated. Desplats also obtained very good results in typhoid fever with guaiacol.

3. Pleurisy. Miron Sigalea painted the entire affected side twice a day with the following mixture: Guaiacol, 45 grains; glycerin and tincture of iodine, each, 300 grains. He has also seen this treatment succeed in recurring effusions after a first thoracentesis. In these cases the guaiacol appeared to have a diuretic effect, which was also observed in a case of scarlatinous nephritis with anasarca and anuria. Desplats also found this diuretic action in typhoid fever and in typhus.

4. Infectious pyæmia. In influenza, pneumonia, rheumatism, etc., painting with guaiacol has an ordinary antipyretic action. In intermittent fever Kohos moderated the attacks in the beginning by injecting a mixture of guaiacol and lanolin over the spleen. In erysipelas of the face the paintings, according to Bard, may diminish the intensity and gravity of the affection. In all affections where the renal elimination may be insufficient, the administration of guaiacol should be cautiously made and its action carefully watched.

5. Pultaceous angina and amygdalitis. According to Darboue, Raymond, Rhodes and others, pharyngeal paintings give very good results in combating not only the fever, but the pain. The glycerin solution is preferable to the oily solution, and, for an adult, the two ingredients are prescribed in equal parts. For children, however, the dose should be weaker, one part of guaiacol and three of glycerin,

and its action closely watched. The first burning is sharp and the taste rather disagreeable, but the relief is rapid. The difficulties of delugition are very much diminished.

6. Neuralgia. Painting with guaiacol seemed to give good results in sciatica, in intercostal neuralgia, and in coxalgia. Balzer employed the following ointment in blennorrhagic orchitis: Guaiacol, 75 gra.; vaseline, 450 gra. In the very painful forms he applied the first painting over the abdomino-inguinal region with from thirty to forty-five grains

of pure guaiacol, and after the first sharp burning relief generally occurred at the end of about half an hour.

The dominating action of the drug is antithermic. This has been observed especially in cases of tuberculosis, although this action of the drug is successful in other pyrexia. The analgetic action of guaiacol must not be overlooked, for it has rendered great service in certain painful affections in the treatment of which we have often been powerless to combat the element of pain with other drugs.—*Presse Medicale.*

### THE USE OF ALCOHOL IN SICK CHILDREN.

Dr. Seibert, in a paper read before the Section on Pediatrics, New York Academy of Medicine, March 14, 1895, states:—(*Archives of Pediatrics*), while Demme in his classical study on "The Influence of Alcohol upon the Organism of the Child," published in 1891, has given a review of all the possibilities of chronic alcoholic poisoning in children, he only alludes to its use at the bedside, by expressing the wish that it may there, never be entirely suppressed. Strümpell's masterly paper, read in September of 1893 at the 65th annual meeting of German Physicians, "On the Alcohol Question from the Medical Point of View," points out the pathological changes caused by the habitual moderate use of alcohol in adults, but alludes to children in only a cursory manner; and though an excellent medical sermon preached to German physicians upon the evils of the beer-drinking habit of the Teutonic race, no precise statements as to when and where alcohol should be employed is found therein any more than in Demme's work.

If I attempt to describe some of the conditions in sick children where alcohol may, and may not be of use, I do so with the distinct understanding that in the future the number of these indications may be changed, and that the opinions expressed are strictly my own, and therefore open to criticism to all who may think otherwise.

1. GASTRO-ENTERITIS. In an article on "Acute Gastritis in Infants," published in 1884 (*Jahrbuch für Kinderheil Kunde*); I pointed out the necessity of forbidding

the drinking of beer to mothers nursing infants suffering from gastro-enteritis. In a paper published five years ago, I said: "We can exclude all forms of gastro-intestinal disturbances in children from the list of diseases where alcohol is beneficial. In acute cases, even in cholera infantum, large quantities of water and smaller ones of black coffee or tea, will stimulate more than any quantity or quality of alcohol, besides, not irritating the mucous membrane, already in a diseased condition."

In an article on the "Mechanical Treatment of Gastro-Enteritis in Children" (*Medic. Monatsschrift*, 1889) I pointed out the fact that the only rational course for the therapist to pursue in these cases, was to rid the alimentary canal as soon as possible of its bacterial invasion, and to stimulate by supplying the blood and the tissues with large quantities of water. Epstein in 1891, (*Festschrift* to Prof. Henoeh) arrived at the same conclusion, and to-day this indication is universally recognized. To attempt the stimulation of such patients with alcohol after cleansing the alimentary canal is superfluous, but to give alcohol to enteritic children while yet the decomposing milk remains in the intestine and the development of bacteria is perhaps supported by the constant supply of milk given to the child, is irrational and harmful.

2. TYPHOID.—In connection with all the varieties of acute and chronic gastro-enteritis, from the most intense form of cholera infantum down to the mildest type of dyspepsia, we had better dispose of the

possible use of alcohol in the typhoid of children. Brown's theory of *asthenia* and *asthenia*, and Todd's teachings had spread the alcohol treatment of typhoid fever from England all over Christendom. Enormous quantities were given. Demme tells us, "that it was not unusual to give two to three bottles of strong red wine in addition to large quantities of champagne and cognac to an adult in the course of twenty-four hours; sometimes a quart of cognac was given daily."

I have used alcohol in typhoid patients children and adults, in private and in hospital practice during the last seven years only in emergencies. Ninety-five per cent. of my patients never taste it. Even during convalescence, alcohol can only retard and impair the digestive ability of the stomach by causing catarrh and decreasing its motion, thereby giving rise to abnormal bacterial activity in spite of hydrochloric acid, as Kaufmann, of New York, has recently shown (*Berl. Klin. Woch.*, Feb., 1895); and this at a time when this organ is expected to perform more work, just after having been weakened by the disease and possibly the medicines of the physician.

As typhoid usually runs a mild course in children and collapse will hardly ever be observed, if but the proper diet is adhered to, we may safely say that alcohol ought not to be given to typhoidal children, as it will increase gastric and intestinal fermentation and so the systemic infection. Alcohol does not disinfect the alimentary canal any more than the blood, as modern bacteriological research has demonstrated. As an antipyretic in typhoid, alcohol has at no time been taken seriously by any physicians of note since clinical thermometers are in use, and its sedative action can much better be brought about by safer remedies.

3. In fibrinous and broncho-pneumonia in children alcohol has been given in enormous quantities, and it has become a habit with some of us to occasionally point with pride "at the very large quantity of alcohol which young children tolerate during pneumonia." As to this "toleration" I will here ask, "what could these little sufferers do but to tolerate this abuse?" I am sure they would have protested if they had been older instead of "young" children. This idea to make up for the small size of the patient by the large size of the whiskey-bottle, was based upon our ignor-

ance as to the true cause of heart weakness in catarrhal and croupous pneumonia. Klemperer and his brother and others have isolated the toxins of some varieties of pneumonia and have demonstrated their destructive action upon the nerve centres.

I do not use alcohol in pneumonic children at all, so long as they are willing to swallow cold water, tea, coffee and broths. In a collapse, threatening or present, I do use it, in good doses and in concentrated form, but I hold that we can not prevent heart failure not yet in evidence, by the regular administration of small or large quantities of alcohol. On the contrary, I am convinced that by regularly bringing this quick-acting poison in contact with the stomach and the nerve-centres, we cause pathological conditions well known to us in the healthy child after drinking liquor, but which we do not recognize in the patient, partly because the symptoms of the disease disguise them, and partly because we are blinded by our own success in increasing the volume of the pulse (due to vaso-motor paralysis), to see the harm we do.

An alcohol-fed child will digest still less during pneumonia than one who's stomach is not constantly insulted in this way. So it is in healthy children and so it is in sick children, but the damage done in the latter is by far the greater. The idea that the toxins of pneumonia counteract the alcohol so as to destroy its toxic effects and to leave only its beneficent properties, is one of those many pious grey theories, ripe and ready to be thrown into the waste-paper basket of modern medical knowledge.

Alcohol-fed pneumonic children do not regain their appetite and digestive power after the attack is over as others treated without it, for the resulting gastritis will as surely then be in evidence as the one in the adult male who returns from a protracted spree. The *anæmia* and malnutrition must therefore be increased by the alcohol treatment, aside of the nervousness due to destroyed nerve-tissue, and the ultimate complete recovery to the normal state must be prolonged.

Insufficiency of the heart's action in pneumonia in children is due to the destructive action of the absorbed toxins upon the nerve tissue and to insufficient oxydation of the blood, *ergo* carbonic acid gas poisoning. Against the latter, a constant supply of fresh cool air (irrespective

of the time-honored 70° F. temperature of the sick room), will guard well in most cases; against the action of toxins we are practically powerless. Alcohol does not decrease the strength of the toxins in the blood any more than in a test-tube, and we have good cause to infer that the blood can come up to the emergency much better without its vitality and reactive power in producing anti-toxins being interfered with by alcohol.

The nerve tissues, peripheral and central, are never benefited by alcohol. Destruction of nerve tissue is the well-recognized mission of all alcohol brought into the system, even in repeated small doses, as Strümpell has shown. And what about the reaction following each exciting dose? Depression, in exact proportion to the amount of alcohol taken, follows in every instance in the healthy human body, and also during pneumonia, leaving the nerve-centres guarding the heart's action certainly not in an improved condition. Abundant clinical experience, added to known pathological facts, therefore, have induced me to use alcohol in pneumonic children only in occasional emergencies, where smaller doses will do more good and less harm.

4. In scarlatina alcohol is not tolerated by the stomach at all during the first few days, as nausea usually teaches us. In malignant cases, causing destruction of blood-cells and death in from six to forty-eight hours, I have never seen the slightest improvement, even when large doses of ether and alcohol were given hypodermically. In mild cases, without pharyngeal necrosis alcohol is entirely out of place, as well as in measles; as the hyperæmia of the cutaneous capillaries by partial paralysis of the vaso-motor nerves (from which cause we noticed the flushed face of the drinker) can only be increased, adding to the distress of the child and the better accommodation of the bacteria in the skin.

In septic conditions during scarlatina, induced by absorption from the pharyngeal necrotic tissue into the cervical lymph-nodes and the general circulation, now and then causing abscess, a judicious dose of light wine, or whiskey in water, appears to be of benefit, relieving pain and insomnia. It is my habit to give coffee, tea, cocoa and camphor during daytime, and a fair dose of alcohol at night, so as to somewhat subdue the excitement and restlessness

caused by necessary irrigations of the upper air-passages. With such a night-cap, combined with a carefully selected dose of an antipyrine solution (this given per rectum), I have produced refreshing sleep, but often when gastro-intestinal disturbance caused me to abandon its use again, the children seemed not to be the worse for its want.

Some fourteen years ago I treated a boy of six years, for two months, during a severe attack of septic scarlatina. His father kept a wine shop and alcohol was freely given. Four weeks after my last visit I found the little fellow suffering from a peculiar form of gastritis, allowing him to eat well, but also compelling him to leave the table and to vomit up all of the food taken. He confided to me the secret that he had formed the habit of not alone taking all the wine given to him, but also to help himself to extra drinks whenever no one was near. A speedy removal to a temperance boarding house in the Orange mountains promptly cured him of his alcoholic gastritis.

5. In diphtheria the free use of alcohol has been universal. The enormous mortality of about 40 per cent., in places supplied with the best medical talent, like London, Paris, Berlin and New York, does not exactly speak for its value in this ailment. In mild cases I have not used it at all for years, and I doubt very much whether my patients suffering from severe attacks (showing general invasion of the naso-pharyngeal cavity from the start), derived any benefit from the large doses I gave them. The diphtheric paralysis caused by the toxin of the Loeffler bacilli can certainly not be prevented by alcohol, no matter how much is given, but that we may assist a myo-carditic heart-muscle to do its work, is piously believed by many. I doubt it and considering that Strümpell claims to have seen degeneration of the myocardium from habitual moderate doses of alcohol, we may ask if not possibly large doses at least aid the diphtheria virus in increasing degeneration here where we expected to help instead of to hinder? Certainly an open question, waiting for investigation.

So far I have given alcohol in diphtheria whenever the heart seemed to give out, but then in large doses and only for a day or two. Frequent small doses may pave the way for the toxins into nerve-tissue by



aiding in attacking their structure. I have given a strong man, on the third day of a virulent attack of gangrenous diphtheria, when his pulse was 140 and his rectal temperature  $96^{\circ}$  F., a full quart of French cognac in twenty-four hours, after which time his pulse fell to 120 and his temperature rose to  $104.5^{\circ}$  F., but no more after this; and a girl of six with a rectal temperature of  $97^{\circ}$  F. and a pulse of 138 on the fifth day of a severe attack of diphtheria, half a pint of rye whiskey in twelve hours, and they both recovered, and I fondly hope that this treatment saved their lives, but my scepticism does not permit me to assert this, because thorough local treatment (which had not been used till then), certainly stopped the further spreading of the local affection, and possibly the antitoxines developed in the blood in spite of the alcohol, did the rest. In twenty-seven cases of diphtheria seen by me since Dec. 1, 1894, and treated by Behring's serum, among which were five with laryngeal infection, alcohol was given to one child of eleven months, and this was the only one that died.

As most cases of diphtheria are mixed infections, caused by different varieties of bacteria associated with the Loeffler bacilli, we still may assume that heart weakness may be caused by some of the other germs, and therefore I do give large doses of alcohol in such emergencies, but only temporarily.

6. In nephritis alcohol can only do harm in large doses. Strümpell insists that acute alcoholic nephritis exists as well as chronic. Alcohol has a strong action on the epithelial cells of the kidneys, and therefore may occasionally be used to advantage in emergencies. Light beer has served me well in a few cases. On Jan. 1 1894, I was called to intubate a girl of five, then ill with "sore throat" for a week. A culture showed Loeffler bacilli. Two days later the child had a sudden convulsion and the temperature rose to  $105^{\circ}$  F. During the next twenty-four hours but one tablespoonful of bloody urine was passed. Nausea caused the child to even throw up cold water. Diuretin per rectum had no effect. In desperation I offered her beer, which she had never before tasted. She took it, retained it and lived on it for two days. Urine came and slowly improved. On the third day she took buttermilk, later on, milk, and she made a slow but complete recovery.

Albumen persisted for a month, blood was found for two weeks. She was given no more alcohol after she took the buttermilk.

Knowing the effect of large doses of alcohol on the healthy kidney epithelium, and knowing the frequency of diphtheric nephritis (to which knowledge of the profession at large seems to have been helped but recently, through the introduction of the antitoxine), we may well ask if routine alcoholisation in diphtheria may not cause great mischief? In the nephritis almost invariable accompanying severe gastro-enteritis in young children, usually never looked for, alcohol is out of place, as well as in post-scarlatina nephritis.

In conclusion, I believe that the amount of alcohol given to sick children by physicians (aside of occasional emergencies few and far between), is in direct proportion to their ignorance of the proper dietetic and hygienic management that their little patients are in need of.

#### Sequelae of Symphyseotomy.

Tissier (*Archives de Tocologie et de Gynecologie*,) exhibited recently at a French society a woman upon whom he had performed symphyseotomy six weeks previously. She was a multipara and rachitic. The conjugate was about three inches. Her previous labors had been severe. Labor was induced by Tarnier's bags and the forceps applied three times without result. Symphyseotomy was then performed. The hemorrhage was free. When the public bones parted a prolapse of the pelvic organs was distinctly observed. Delivery was accomplished with ease. There was troublesome tympanites about the third day. By the seventeenth day the symphysis was not consolidated and the public bones still slid on each other a little, consequently the patient could not walk long without feeling fatigued. A thrombus developed around the levator ani on each side during the puerperium, but both became absorbed. The child died when a few weeks old. The question as to the cause of the tympanites was raised at the society. Tissier believed it to be due to the prolapse of the uterus, which intercepted the free descent of the flatus. Fournel believed it to be due to temporary intestinal paralysis, as is frequent after abdominal section.

## PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

### MEDICINE.

#### Strychnine Delirium.

Those members of the medical profession who have employed caffeine very largely in the treatment of cardiac and renal disease have recognized that large doses of this drug, continuously administered for a considerable period, developed in certain individuals what has been popularly called "caffeine craziness." In other words, the full medicinal doses required by the condition of the heart or kidneys have also been sufficiently large not only to produce an increased activity of the brain, such as is seen when coffee is taken in large amounts, but also have gone farther than this, and by the very cerebral stimulation produced temporary insanity. Within the last few years the medical profession has been employing in certain states what may be considered as massive doses of strychnine in the treatment of failing respiration or circulation, and has obtained therefrom very good results. It having been found that these full doses of strychnine acted favorably, when given in an emergency, we have been tempted to continue their administration where the symptoms were relieved but temporarily, and, as a result, have oftentimes been pleased with their effect. On the other hand, a sufficient number of cases have been seen in which cerebral disturbance has followed these large doses to put us continually on the lookout for such untoward symptoms. As a rule, he who administers large doses of strychnine in an emergency is on the *qui vive* for some twitching of the muscles of the forearm or other portion of the body as an evidence of the physiological action of the drug. While we believe that these symptoms are commonly produced by a single administration of the remedy, we are also confident that its continued administration in full doses frequently fails to produce these evidences of heightened reflex activity, and in their place causes a more or less active delirium, in which the patient frequently refuses to take his medicine, or develops the delusion that his attendants are conspiring to poison him or do him some other injury.—*Thera. Gazette.*

#### Acetanilid in the Treatment of Malarial Fever.

At a meeting of the Philadelphia County Medical Society, Dr. Oscar H. Allis read a paper contributed by Dr. Benjamin Brodnax of Brodnax, La., in which the recommendation was made that acetanilid should be used instead of quinine in the treatment of chills and fever. Dr. Brodnax states that he has treated several hundred cases in this way and always successfully. If there is

time before the chill, he gives from one-and-a-half grains to two grains of calomel in one-quarter-grain doses half an hour apart; after which, whether the bowels have moved or not, from two to six grains of acetanilid, according to the age of the patient, are given twenty minutes or half an hour before the expected chill. Gentle perspiration with natural sleep usually promptly follow the administration of the drug and the patient awakens, entirely relieved, in about half an hour. Should this effect not be produced, a second dose of equal amount should be given half an hour after the first. If there is not time before the chill to administer the calomel, this may be deferred until after the acetanilid has been given and its effect has passed away.

The after-treatment consists of the administration of the following:

Diluted nitro-muriatic acid.....1 fluid ounce.  
Ferrous sulphate.....80 grains.  
Mix, and allow to stand for twenty hours.  
Dose—Ten drops in water three or four times a day.

#### Prognosis of Diabetes.

Dr. Arthur C. Jacobson has been contributing a series of articles to the *Brooklyn Medical Journal* on Diabetes Mellitus. In speaking of the prognosis of this disease, he says: "Generally speaking, true diabetes is an incurable disease. Cures, however, have been reported, but it is probable that many such cases were of the transient or intermittent variety of glycosuria, occasionally observed in corpulent individuals given to overfeeding, or in those subjected to severe mental strain. This form is very amenable to treatment. Tyson, however, reports a case of true diabetes in a girl twelve years of age terminating in complete recovery, but it is to be born in mind that apparent recovery does not exclude the possibility of a fresh outbreak of the disease."

#### Influence of Cold Baths on Toxicity of Urine in Febrile Disease.

Dr. Ausset, an army surgeon (*Medical Week*), has been making extensive experiments in the effects of the cold bath upon urinary toxicity in infectious diseases, especially typhoid fever, scarlet fever, and measles. He finds that in all cases, the toxicity of the urine is greatly increased under the influence of cold baths. He attributes to this fact the excellent effects of Brand's method of treating febrile diseases by the cold bath, the temperature being lower and the course of the disease being favorably influenced by the increased elimination of the toxins produced by the specific microbes of the disease.

## THERAPEUTICS.

### Cocaine Cataphoresis in Neuralgia.

It is pleasant to have one's views on the treatment of neuralgia in superficial nerves corroborated by such experience as this of Dr. McGuire. Neuralgias in superficial nerves (such as branches of the trigeminus) are always best treated by cocaine cataphoresis, so far as the immediate relief of pain is concerned. This method is always the most satisfactory where the pain is due to a local lesion in the nerve and the neuralgia is not central.

The case instanced by McGuire was that of an adult man, with neuralgia of the inferior dental branch of the inferior maxillary nerve. After exhausting ordinary remedies in this case, he cut the nerve, and gave relief; but the pain returned some months, after in the lingual branch of the same trunk.

Mastication was so painful that he was compelled to live on liquid food. Swallowing, speaking, or moving the tongue in any way brought on violent paroxysms of pain.

The author goes on to say:

"I determined to try the effects of the cataphoric use of cocaine over the nerve as it passes to the side of the base of the tongue, and was induced to do this by remembering that my son, some months ago, had not only relieved, but permanently cured, several obstinate cases of neuritis by this method.

"I took the positive pole of a galvanic battery, covered it with a piece of absorbent cotton, saturated it with a 10-per-cent. solution of muriate of cocaine, and placed it in the mouth over the portion of the nerve which is the usual site of operative procedures, placed the negative pole on the external surface of the cheek, and passed a current of five milliamperes for a period of five minutes. The pain was instantly relieved, and I must confess, much to my surprise, did not return for twenty-four hours, a period much longer than would be required for the effect either of the electricity or of the cocaine to wear off."—*Gaillard's Med. Jour.*

### Hot Saline Baths in Infantile Paralysis.

In the chronic stage of infantile paralysis, the mother should be instructed to bathe the affected parts daily with a hot solution of common salt. The solution should be of the strength of three or four ounces of salt to a quart of water, and the application should be as hot as can be borne, and should be followed by vigorous rubbing of the affected parts with oil. The mother should also be instructed to flex all the joints completely, taking care to antagonize any tendency to equinus, or equino-valgus or varus, which may occur. The writer recently operated upon a case in which the most extreme degree of equinus possible had resulted from neglect of this precaution. Both feet were affected. In one foot the equinus was complicated with varus, and in the other with valgus. These cases are often neglected, to the great detriment of the patient. Applications of electricity, systematic massage, and skillfully directed gymnastics are of great value in these

cases, and should be employed as soon as the lesion is discovered, or at least as soon as the acute symptoms have disappeared. In some cases orthopedic apparatus is necessary to prevent serious deformity. Great results can often be accomplished in these cases; even the most unpromising symptoms may sometimes be made to yield surprising results by persevering treatment.—*Ed. Mod. Med.*

### Blood Alterations in Ether Anesthesia.

In seeking for the cause of anesthesia in ether inhalations, Dr. J. C. DaCosta gives, in the *Medical News*, the results of a series of cases carefully studied, in which he is of the opinion that not only the direct action of the ether on the nerve elements, but an alteration in the composition of the blood, causes this unconsciousness. His conclusions are:

1. Etherization produces a marked diminution in the hemoglobin of the blood.

2. The red corpuscles and the hemoglobin are especially affected in blood previously diseased, in such conditions, for instance, as anemia.

3. Irregular reports are due to faulty observation, to the presence of altered hemoglobin in the blood, to the faulty aberration as to color of a Fleischl instrument or to taking the blood before anesthesia is completed.

4. The white corpuscles show irregular changes which are not characteristic, and exhibit variations not more pronounced than would be found in the same number of samples of normal blood on different examinations.

5. Age does not apparently influence the results.

6. Ether-pneumonia may possibly be due in some instances at least, to the action of intense cold upon the lungs, produced by the action of ether-vapor.

7. Edema of the lungs may arise from contraction of the pulmonary capillaries, thus producing a loss of *vis a tergo* and damming up of blood in the veins. Furthermore, the same condition may produce sudden paralysis of the heart.

8. The often-quoted observation as to the effect upon the hemoglobin of shock and hemorrhage requires enlarged repetition upon human beings before the statements can be unreservedly accepted that hemorrhage causes a great fall in the amount of hemoglobin, but that shock does not affect it.

9. The chilling of the blood-stream may be responsible for the nephritis that occasionally follows etherization.

10. Prolonged anesthesia profoundly deteriorates the blood and strongly militates against recovery; hence rapidity of operation is most desirable.

### Alummol.

Chotzen (*Berlin Klin. Woch.*) has investigated the therapeutic action of alummol, a substance discovered by Filchre of Breslau. Alummol is an aluminous salt, which contains about fifteen per cent. silver and five per cent. aluminium. It is a fine white powder, very soluble in water. In glycerine and in



warm alcohol. It is insoluble in ether. Henz and Leibrecht have already reported on its physiological action, and have shown it to be a harmless, odorless and antiseptic astringent. The author has used it in more than three hundred cases. It was found curative, when applied pure to soft chancres and abscesses, mixed in the proportion of ten to twenty per cent.; with inert powders in balanitis, erosions, moist eczemas, etc. One to five per cent. solutions were used in moist and papular eczemas, acne of the face, boils, and urethritis. Two and a half to ten per cent. solution in alcohol was used for the treatment of eczema, urticaria, sycosis, favus, psoriasis of the head and face; and two and a half, five, ten and twenty per cent. lanolin ointment for eczema, seborrhoea capitis, psoriasis and favus. Alumnol varnishes were used in papular and squamous eczemas. It was found that alumnol was efficacious in acute superficial inflammatory affections of the skin, as well as in chronic processes in which the inflammation was deeper; and in parasitic diseases (under which head the author includes erysipelas, favus, lupus, soft chancre, erosions and gonorrhoea); and in acute and chronic inflammations of the mucous membrane.

#### Changes in the Respiratory Organs in Carbolic Acid Poisoning.

Leon Wachholz reports two cases of suicidal poisoning with carbolic acid in which post-mortem examination showed, among others, changes in the respiratory organs. That carbolic acid occasions certain anatomical changes in these organs has long been known, but the explanation of such changes, however, has been unsatisfactory. To elucidate the question the author undertook a series of experiments on animals, from which he draws the following conclusions:

1. Carbolic acid is absorbed into the blood, whence it is violently eliminated by the kidneys, occasioning necrobiotic changes in those organs.

2. It affects the respiratory organs in the same manner as preparations of mercury do the bowels.

3. The course of the poisoning in man and warm-blooded animals differ in that, in the latter the period of excitation predominates, while coma and paralysis develop in man at the outset.—*Przegląd Lekarski*.

#### Water in the Treatment of Neuralgia.

Dr. Buxbaum first called the attention of the profession to this mode of treating neuralgia. He thinks that the hydrotherapeutic treatment of this disease has hardly received the attention which it deserves. In neuralgia of rheumatic origin it acts by inducing increased blood supply to the affected parts, and in the neuralgias following upon the infective diseases or due to intoxication by mercury or lead, it promotes the elimination of the poison.

He reports that in 83 typical cases of neuralgia this treatment was unsuccessful only

in 10 per cent., whereas 60 per cent. were cured, and the remainder considerably relieved. The alternate application of heat and cold is most to be recommended. The patient is exposed to high temperatures, and afterwards cold applications are made. The alternating Scotch douche is particularly of service. Recent neuralgias may often be cut short in this way. Patients with sciatica treated without effect by various therapeutic measures, even including nerve stretching, have been cured in a short time by this method. If the neuralgia persists it is nearly always due to some irremediable cause, with the exception of some few cases open to operation. If a remission occurs after the treatment has begun, it shows the neuralgia is curable, and is therefore of prognostic value. In trigeminal neuralgia hydrotherapeutic measures applied to the whole body are the most suitable. Of course other indications should be attended to, such as anaemia, malaria, etc.—*Charlotte Med. Jour.*

#### Difference in the Actions of Pepsin and Pancreatin in Digestion.

Extensive experience has proved to the author that pepsin is indicated only in a very small number of cases of indigestion. If there be an insufficiency of ptyalin in the saliva, starchy substances will reach the stomach without being digested; pepsin will have no effect on it, whilst pancreatin—which digests twenty-five times its weight of starch—completely saccharifies it.

In stomachal digestion, pepsin can be active, but it is absolutely indispensable that it be in the presence of an acid gastric juice, which, in the author's opinion, occurs very rarely. If the pepsin be replaced by pancreatin, giving a dose of  $\frac{1}{2}$  to 1 gramme before meals, the latter, by virtue of its power of peptonizing thirty-five times its weight of albumin, will secure rapid and complete digestion of the albuminoids in the meals.

The action of pancreatin on fats cannot be doubted, since the pancreatic juice which contains it possesses the property of emulsifying and decomposing them. But it is necessary, to maintain its emulsifying power, that it pass the stomach without being acted upon by the gastric juice; it must, therefore, be protected against the acid of this juice.

The author states that in patients who had taken pills containing iodides with pancreatin immediately after their meals, the urine and saliva began to give an iodine reaction only six hours after the ingestion of the pills. Pancreatin contains three ferments: Amylopsin, which saccharifies starch; trypsin, which peptonizes albumin; and steapsin, which emulsifies and decomposes all fatty substances. Precreatin, therefore, acts on all food by the simultaneous action of its three constituents, and thus secures complete digestion. Moreover, it is indicated in enterocolitis; and in gouty persons, it is said to improve nutrition by modifying the products of digestion, and to cause cessation of attacks of gout and of glycosuria.—*Dr. Gombault (Gaz. des. Hop.)*